

ASSESSMENT OF A BILINGUAL PROGRAM BASED ON CONTENT AND
LANGUAGE INTEGRATED LEARNING IN A STATE SCHOOL OF PEREIRA

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TABLA DE CONTENIDO

RESUMEN	4
ABSTRACT.....	6
ACKNOWLEDGMENTS.....	8
1. STATEMENT OF THE PROBLEM.....	10
2. CONCEPTUAL FRAMEWORK.....	18
2.1. Bilingual education	18
2.2 Translanguaging	24
2.3 Content and language integrated learning.....	29
2.4 Content and language integrated learning evaluation and assessment	33
3. LITERATURE REVIEW	37
4. METHODOLOGY	45
4.1 Type of study.....	45
4.2 Context.....	48
4.3 Setting	50
4.4 Participants	51
4.5 Researcher's roles	54
4.6 Data collection methods	55
4.7 Data analysis	57
4.8 Ethical considerations.....	60
5. FINDINGS AND DISCUSSION	62
5.1 CHALLENGES IN THE ASSESSMENT OF A DYNAMIC BILINGUAL CLIL AND TRANSLANGUAGING PROGRAM.....	62
5.2 TEACHERS' PERCEPTIONS TOWARDS THE INSTITUTIONAL PROJECT.	69
6. RESEARCH AND PEDAGOGICAL IMPLICATIONS.....	98
7. CONCLUSIONS.....	101
8. LIMITATIONS	107
9. REFERENCES.....	110
10. APPENDICES	114
APPENDIX 1: MOCK TESTS	114
APPENDIX 2: FINAL TESTS.....	164

APPENDIX 3: GRADING CRITERIA.....	223
APPENDIX 4: INTERVIEWS CONSENT FORM	224
APPENDIX 5: INTERVIEWS QUESTIONS.....	225

RESUMEN

El presente estudio tuvo como objetivo evaluar los progresos lingüísticos y de contenido de los estudiantes en la implementación de un programa de educación bilingüe dinámica AICLE con *translanguaging*, también buscó recolectar percepciones de maestros sobre dicho programa. Después de que el proyecto pasará por dos fases en las que los profesores asistieron a cursos de desarrollo profesional en contenidos, lenguajes y metodología que los llevaran a guiar sus propias clases en AICLE. Por lo tanto, durante la fase actual, el objetivo principal fue evaluar los progresos que los estudiantes han tenido durante todo el proceso del proyecto institucional denominado CHANGE, así como recoger las percepciones de los profesores hacia ello. Los resultados indican que el proyecto tiene algunos retos a superar, así como un impacto positivo. En primer lugar, se pone de manifiesto que la logística debe tenerse en cuenta ya que afecta la aplicación de las pruebas. En segundo lugar, también se encuentra que los grupos comprendidos entre transición y octavo grado tienen muchas diferencias cuantitativas y cualitativas. En tercer lugar, con respecto a las percepciones de los profesores, se encuentra que hay una necesidad de recursos y más tiempo de acompañamiento de los docentes de apoyo. Además, los docentes expresaron que a pesar de que haya aspectos a mejorar, se evidencia que consideran que para mejorar su desempeño, el proyecto debe seguir siendo implementado. Finalmente, las implicaciones de la implementación de AICLE, de acuerdo con las percepciones de los participantes, es que a pesar de que AICLE es un enfoque desafiante para ser implementado en las escuelas estatales, se ha evidenciado que no es una tarea imposible. Por lo tanto, para tener un proceso exitoso es necesario mejorar los recursos y materiales; Por último, si bien los profesores no tenían un alto nivel de inglés

para implementar AICLE, mencionaron que se sentían comprometidos a aprender el idioma y a mejorar en todos los aspectos para que sus implementaciones se llevaran a cabo de manera adecuada.

ABSTRACT

The current study aimed to assess students' linguistic and content progresses towards the implementation of a CLIL dynamic bilingual education program with translanguaging, and also sought to collect perceptions from in-service teachers regarding it. After the project passed through two phases, in which teachers were conducted in professional development courses in content, language and methodology that led them to guide their own CLIL classes which was the second phase. Therefore, during the current phase, the main focus was to assess the progress students have had during the whole process of the institutional project named CHANGE as well as to collect teachers' perceptions towards it. The findings indicate, the project has some challenges to overcome as well as positive impact. First, it is evidenced that logistics need to be taken into account as they affect the application of tests. Secondly, it is also found that the groups between kindergarten and eighth grade have many quantitative and qualitative differences. Third, regarding teachers' perceptions it is found that there is a need of resources and more accompanying time from pre-service teachers. Lastly, teachers expressed that even there are aspects to improve, it is evidenced that they consider that in order to improve their performance, the project should be continue being implemented. Finally, the implications of CLIL implementation, according to participants' perceptions is that even CLIL is a challenging approach to be implemented in state schools it has been evidenced that it is not an impossible task. Hence, in order to have a successful process there is a need of improving resources and materials; lastly, although teachers did not have a high English proficiency level to conduct CLIL, they mentioned that they felt committed to learn the

language and to improve in all aspects in order for their implementations to be carried out in a proper way.

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1. STATEMENT OF THE PROBLEM

Nowadays the world requires the academic community to become part of the international context; as a result, there is a need to qualify foreign and content instruction in terms of bilingual education, which will allow academic members to be involved in the internationalization process. In order to cover a methodology to accomplish the desired Colombian bilingual education, the problem will be widely stated, and Content and language integrated learning (CLIL) will be introduced as the approach to be implemented. Furthermore, CLIL contributes to the improvement of the Colombian bilingual education as it aims to be the solution to accomplish the desired bilingual country.

The growing importance of internationalization in higher education has led institutions to establish priorities and strategies to achieve greater international presence and visibility so as to be part of an increasingly globalized world. This, however, has become a challenge for Colombian national government and the institutions responsible for higher education within countries, as they should work towards consolidating globally accepted quality criteria to support the processes developed by the institutions. (*Consejo Nacional de Acreditación*, 2012). That is to say, that Universality concedes learners to be part of a larger social context as well as the possibility to access other learning scenarios including all the necessary values for learners by offering the opportunity to have access to it.

In the 21st century, it is not enough for people to speak one language because of the challenges that current society sets in terms of education, culture, technology and economy. The present problem does not focus on having an appropriate method for teaching language, but rather in combining principles which constitute the basis for teaching according to the demands of society and its changing nature. The General Law of Education (Ley 115 de 1994) establishes that state schools have to give students the opportunity to develop communication skills to read, understand, write, listen, speak and express themselves properly in at least one foreign language. Given results exposed by the Colombian Ministry of Education (MEN) in Colombia, it is not a reality, however. De Mejia (2002) reports that learning a foreign language is something only for privileged people who can afford this kind of education to their children. She refers to it as “Elite Bilingual Education”, a kind of education impart in bilingual schools giving the students the opportunity to be in contact with the foreign language through different programs led by these institutions.

For many years bilingual education has been popularized for its importance for the development of a country and its inhabitants; particularly, in Colombia its main focus has been in just one language –English-. The necessity to become a bilingual country leads the Colombian Ministry of Education (MEN) to establish a bilingual program whose main goal is to have citizens who are capable of communicating in English. In 2006, when this program began, its focus was merely on the linguistic competence; thus, its main concern was to educate people to perform a language leaving aside the role culture plays in learning a new language. De Putte (2009), coordinator of the joint programme of the Ministry of

Education and the British Council, includes two more competences in the syllabus of the mentioned program, the sociolinguistic and the pragmatic competences. All of them combined; aim at building up the communicative competence. Thence, these three joint competences provide Colombians with real bilingual education as it brings about a factual communicative competence. As the Ministry of Education states, bilingual education is not only to instruct students in order to perform a language but also knowing its culture. After the program was modified, it was established that students will have the opportunity to learn English at schools from primary to secondary school and at the end of that, to reach a B1 level of proficiency based on the Common European Framework of Reference for Languages (CEFR).

In the implementation of bilingual education in Colombia, it is evidenced that the government is worried more about the design than the implementation of the National Bilingual Program. As reported by the Ministry of Education in Colombia there are 46.828 schools which are divided into official institutions, non-official institutions and basic middle schools; by the year of education 2009, there were only 176 bilingual schools. Evidently is shown that bilingual education has not been implemented as it should at this moment.

Miranda &Echeverry (2011) mentioned that at the moment of implementing a program in schools, it is required to take into consideration different factors that may affect its correct development such as the management of resources, the establishment of learning

opportunities for students and, especially the assignment of time and support to teachers in the process of curriculum innovation and teacher training.

In addition to what Miranda & Echeverry mentioned, it also needs to be counted on the amount of benefits that the country will develop with the implementation of bilingual education. To highlight those aspects, the article posted by the New York Times entitled, *Why Bilinguals Are Smarter* (print on March 18, 2012, pg. SR12), mentions and confirms what almost all sources state about the big amount of benefits that bilingual education has. Additionally, to give students a sense of cultural pluralism, it has been shown that learning a second language, particularly from an early age, has a cognitive and academic benefit. Research demonstrates that young children who become bilingual develop stronger communication skills in their native language, learn new additional languages at a faster rate and are better prepared to compete in the global economy.

According to the article of the New York Times, it is stated that bilingual children and adults often demonstrate superior executive function skills that result in an enhanced ability to adapt to changing situations, execute multi-level tasks, and to be engaged in high-level cognitive thinking skills. Finally, bilingual adults are more employable and enjoy a greater variety of career opportunities.

Therefore, the amount of benefits of bilingual education stated in the aforementioned New York Times' article, are according to De Mejia (2002), a consequence caused by the Second World War inasmuch as English became the most important foreign

language in Colombia. Due to English language social, political and economic expansion and influence, Colombia has joined to the US technological development; and in order to be able to do it successfully, the country is on the way of improving its bilingualism.

Besides of the importance of English, and taking into account that not everyone has been able to access to a bilingual education as it was supposed to be, the present research aims to continue with a bilingual education project, intending to contribute to the foreign language education of Colombia, called “Change”. The project was originated from an alliance between *Sistema Universitario del Eje Cafetero* (SUEJE), and *Licenciatura en Lengua Inglesa* (LLI), from the *Universidad Tecnológica de Pereira* (UTP); that has being carried out in two state schools (Hugo Angel Jaramillo and Jaime Salazar Robledo) of Pereira proposing a Content and Language Integrated Learning implementation to promote bilingual education as a right for everybody through the integration of content and language with the application of translanguaging.

The CHANGE project has been developed through phases and currently there has been developed two of them which will be explained later. The present project aims to continue with the third one. So far, during the first phase the focus has been teachers’ training and the implementation of it during the phase two. Throughout the first phase as stated by Mejía, Velásquez, Vargas, Torres and Gallego (2013) English language is no longer seen as a problem but a challenge, and provokes the students to raise interest in the process of learning. It can be understood that the learning environment created by the participants and the teachers’ trainer fosters the participants’ positive perceptions towards the Professional Development (PD) courses, this finding is crucial to the project CHANGE

as it shows that it is not unfeasible to teach CLIL in the Colombian context, in contrast it is important and has a really positive impact and will be a positive process to implement in the context.

Aligned to the first phase of teacher's training, Mejía et al. (ibid) also conclude that the fact that the PD classes helped the in-service teachers to apply their knowledge into their own experience; On grounds of the fact that teachers expressed positive reaction regarding demanding and challenging tasks implemented in Professional Development (PD) class, widely shows that the process has had a positive impact. Moreover, participants consider that what is being learned in the PD classes is pertinent to the actual curriculum that is well known by them, this conclusion evidences the importance of keep working in the project since teachers see the process in very constructive and positive ways.

Due to the good impact of the first phase's findings, the second phase was then carried out. In the implementation phase, Manzur and Ramirez (2014) documented teachers' implementation of lessons based on the training they received during the first phase of the project. When they finally draw their findings, they stated that there was lack of material, lack of technological resources, and lack of time when implementing the CLIL lessons. Even though teachers expressed there were issues when implementing the lessons, they also considered that students reacted positively towards CLIL implementation even when discipline problems were evidenced. Finally, lesson planning became the principal and best strategy to overcome CLIL implementation challenges. After evidencing, good and bad aspects about Change project's first and second phases, it is necessary the question of what comes next?

Then, after first and second phases' findings are drawn, it is evidenced the need of a third one. Therefore, phase three intends to document students' linguistic and content progresses in order to fully sharpen up the idea of CLIL implementations, to contribute to Colombian's bilingual education. Thus, CLIL implementation will be evaluated and assessed in both schools in order to grade how it has been carried out, the progresses and the aspects that need to be improved or totally changed, since by doing it, the project will have both quantitative and qualitative data and, what is more, empirical data, to grind how CLIL needs to be implemented in the Colombian context. "It is by thinking about assessment that we really start to sharpen up our idea of what CLIL is about and the role of language within it" (Llinares et al., 2012: 280). Furthermore, the aspects that have gone right and the ones that need improvement will be re-organized for students of these schools to finally have access to quality in education, be part of a globalized economy and of a modernized world. Also, this project intends to contribute to Colombian own data about CLIL implementations for other schools to have a more specialized and re-organized system adapted to Colombian's reality, to have contextualized, feasible and reliable patterns for CLIL to be successfully applied.

In this sense, the research questions that guide this research are:

- What can be evidenced in the linguistic process of students from kindergarten to eighth grade of two state schools in Pereira through the implementation of Content and Language Integrated Learning and translanguaging as dynamic bilingual education?

- What are teachers' perceptions about the implementation of translanguaging and content and language integrated learning in a bilingual education model?

2. CONCEPTUAL FRAMEWORK

Introduction

The purpose of this section is to explain in detail the several concepts which will guide the development of this study based on different authors perspectives. Bilingual education, which refers to how bilingualism can be fostered within the educational system; translanguaging, which refers to the pre-determined use of both L1 and L2 in the classroom; the Content and Language Integrated Learning approach to teaching, which, as the title suggests, is the combination of both language as well as content inside the classroom; and finally, Content and Language Integrated Learning assessment and evaluation which refers to how to evaluate students within CLIL type as well as all the concepts that different authors provide towards how to assess and how to evaluate this approach.

2.1. Bilingual education

The term bilingual education has different definitions and varies depending on what is going to be use for. In broad terms, this concept refers to the methodology or practices adapted by the educational institution which aims to foster bilingualism in its students. It is further argued that the final aims of the institution greatly affects the type of bilingual education is adapted. Garcia (2009) states a clear distinction between foreign language education and bilingual education. She said that, a foreign language is simply an addition to the education system, while in bilingual education students are taught specific content through a language which is different to their L1. Moreover, Garcia argues that the main

difference between these types of education is their main goal. While the restricted aim of foreign language education is simply to learn a foreign language, the aim of bilingual education is to provide general, meaningful and fair education, forming global students and responsible citizens, to go beyond than the simply acquisition of another language.

Otherwise to define bilingual education was proposed by Baker (2006); he emphasizes on the difference between the need of English in the classrooms as a complement and the need given that there are few students who can speak the language. He divides bilingual education in ten different types; the one that is going to be explained here is the dual bilingual as both languages are used similarly in the field of education and its main purpose is to train students to be proficient in both languages. This type of bilingual education has three characteristics suggested by Baker:

1. The minority language is used for at least 50% of the time.
2. In each period of instruction, only one language is used. Language is mostly learned via content.
3. Both English and non- English language speakers are present in preferably balanced numbers.

This type of bilingualism intends that by the end of the process, students are not only proficient in speaking a new language and using it in the academic field but also in making use of it in daily communication; the other intention of dual bilingualism is to make students aware of the new culture. It is identified that this type of education is important both, for students who are familiar with two languages and their desire is to preserve and

improve them and those students who speaks a language and want to learn a new one to expand their knowledge. During this process we cannot find mixed language speakers, that is why we are moving forward to other author's perspective to find the alternative that best fits. Baker (2006) presented some types of bilingual education which are explained below.

2.1.1 Types of bilingual education

2.1.1.1 Monoglossic

The aim of this feature is to make people proficient in two languages but as separates entities; that is to say that both languages are distinct so they are not evaluated with bilingual standards and learners become proficient in the native language. Garcia, 2009) proposed two types of monoglossic bilingual education, *additive* and *subtractive*.

2.1.1.1.1 Subtractive bilingualism

Its purpose is to change the dominant language and use it for the student to learn the new one. This occurs when children speak one language at home and the other at school but for matters of practicality; as language in school is assessed they are using it at home and start losing their first language.

2.1.1.1.2 Additive bilingualism

In this type, students have the possibility to speak both languages in a balanced level. It is evidenced when children speak their native tongue at home and the second language at school but different from the previous, students learn the second to increase knowledge and them finally speak both in a same level.

2.1.1.2 Heteroglossic

The growing of the world in general has been important for the development of countries which speak only one language due to the fact it has created the need for further actions to keep up in terms of growth. Governments has started to adapt their education system to the new requirements and they have created bilingual programs to help students to became bilinguals and develop their abilities. García (2009) suggest two types that can fit our society:

2.1.1.2.1 Recursive bilingualism

Its main usage is to revitalize language through education. Bilingual education is seen as a medium for students to preserve their native language. Recursive bilingualism make students aware of the importance to do not lose their native language, instead it recalls to feel and to establish the connection between the culture and their community in general. Garcia exposes that students are not seen as Second Language Learners, but as emergent bilinguals.

2.1.1.2.2 Dynamic Bilingualism

It represents the interrelation that is established between the two languages taking into account the participants in different levels inside the process. As this is going to be the bilingual education framework we are taking to carry out this process, we have to pay attention to the different factors that can affect the community we are working with; one of the most important factors can be sociocultural that is why we need to be aware of the multiculturalism inside the classroom to create a good environment for all the students.

Dynamic bilingualism is mainly characterized by the mixture of different languages in a class used not only as a mean of instruction but of communication. That is to say that students use both L1 and L2 in some moments of the lesson. Students will develop both languages simultaneously; as they have the previous knowledge with the Spanish, they are using that to understand and improve the English language. It helps students to the development of new knowledge not only in the foreign language but also in the native one.

Theoretical Framework and Bilingual Education Types- Table (García 2009 pg 123)

	Subtractive Bilingual Ed	Additive Bilingual Ed	Recursive Bilingual Ed	Dynamic Bilingual Ed
Language Ideology	Monoglossic	Monoglossic	Heteroglossic	Heteroglossic
Linguistic Goal	Monolingualism	Bilingualism	Bilingualism	Bilingualism
Types	<ul style="list-style-type: none"> • Transitional 	<ul style="list-style-type: none"> • Maintenance • Prestigious • Immersion 	<ul style="list-style-type: none"> • Immersion revitalisation (heritage language immersion) • Developmental 	<ul style="list-style-type: none"> • Poly-directional or two-way (dual language, bilingual immersion, two-way immersion) • CLIL and CLIL-type • Multiple multilingual

2.1.2 .Bilingual Education in Colombia

According to the article 21 stated in the General Law of education (Ley 115 de 1994) it is said there that state schools have to give students the opportunity to learn a foreign language ; the National Constitution also states that teaching English is an obligation. Bilingual education has been popularized for its importance for the development of a country and its inhabitants, in Colombia particularly its main focused has been in just one language, English. Valencia (2005) point out that as English has had a popular use in the whole world that Colombian government has decided to include it in the National Bilingual Program (Programa Nacional de Bilinguismo) as a medium for students to learn a second language.

The need to become a bilingual country enforced the Colombian Ministry of Education (MEN) to create the national bilingual program and as objective to have citizens who are capable of communicating in English. First, this program was focused only in linguistics aspects that is to say that is main concern was to educate people to perform a language regardless the role that culture have inside learning a new language. In 2009, De Putte coordinator of the joint programme of the Ministry of Education and the British Council, include two competences (sociolinguistic and pragmatic) that together develop the communicative competence.

The objective of this is to train students to be competent in language and in culture. As an extension of that, students have the chance to be taught from primary to secondary school and based on the Common European Framework of Reference for Languages

(CEFR) to reach a B1 level of proficiency. Although it is needed that Colombian inhabitants become bilingual, there are not enough means to achieve this. According to the (Ministerio de Educación Nacional) MEN, from the 46,828 schools which are divided into official institutions, non-official institutions and basic and middle schools; by the year of 2009, there were only 176 bilingual schools. With that, it is demonstrated that bilingual education is not being implemented in Colombia as it should be as the government is worried more about the design of a successful program than the implementation of that.

2.2 Translanguaging

During the implementation process, the use of Spanish as students' L1 and English as their L2 became an essential aspect for framing the bilingual model chosen for the project involved in this study which is referred to as dynamic bilingual education framework as defined by Garcia (2009). The author introduces the concept "translanguaging" as one of the main characteristics of the dynamic model since it refers to the use of several languages in the classroom at different points in the lesson with the objective of simultaneously developing both L1 and L2. This concept is going to be explored through the contributions of Baker (2006) and Garcia (2009).

Baker (2006) defines translanguaging as the parallel use of two languages in the classroom with the aim of developing language skills in both languages and contributing to a deeper understanding of the subject matter being studied. The concept of translanguaging is a more specific term than the general umbrella term "concurrent use of two languages". He cites Williams (1994) who argues that the amount of each language in the classroom is

not the relevant issue in translanguaging, but rather the purpose and the activities carried out in each language. Also, the aim of translanguaging should be the development of Academic Competence (CALP) in both languages, which means that students should be exposed to the same concepts in both languages so as for them to acquire content knowledge in L1 and L2.

Additionally, the author states that in order for translanguaging to develop students' academic competence and make progress in both languages, it is necessary to include a *strategic classroom language planning*. This takes place when input and output are deliberately used during classroom activities; generally, reading or listening is carried out in one language and then a production activity about the same concept being studied is made in the other language and vice versa. Baker also highlights that translanguaging has four potential advantages, described as follows:

- It might help students to have a deep and full understanding of the content being studied, since they have to analyze concepts before elaborating in an exercise or activity by understanding in one language and producing in other, rather than simply copying and adapting text chunks into answers.
- Translanguaging might promote the development of skills in students' weaker language. This is due to the fact that translanguaging attempts to develop academic language skills in both languages and full bilingualism; thus, students may carry out the main part of the work in their stronger language and then undertake less challenging related tasks in their weaker language.

- The dynamic use of both languages can facilitate home-school cooperation. A student capable of producing in both languages may be able to communicate with a monolingual parent about school work and in this way being helped and supported.
- Translanguaging happening in a classroom with native speakers and language learning might support the development of second language ability along with content learning.

Finally, the author makes important contributions regarding the issues and limitations when managing, allocating and organizing the use of both languages in the classroom. However, he highlights that:

“...the value of the idea is that the teacher plans the strategic use of two languages, thinks consciously about the use of two languages in the classroom, reflects and reviews what is happening, and attempts to cognitively stimulate students by a ‘language provocative’ and ‘language diversified’ lesson”.

The limitations of the use of two languages in the classroom have to do with different aspects to take into account before including translanguaging or any other bilingual use during the lessons. These aspects are related to the aims of the school in terms of second language competence and language preservation; the nature of the students themselves, their ages, grade levels, and language development stage; policies regarding the integration of languages in different dimensions such as curriculum, classroom, lessons, and levels of organization; the language balance of the class; students’ exposure to the

languages out of school; the use of bilingual materials; and the management skill required by teachers to monitor, reflect upon a complex language use situation.

The contribution made by Baker (2006) provides the study with important information regarding the use of translanguaging in the classroom, and the beneficial aspects that its inclusion in the classroom has for achieving language and content objectives at the same time. Also, light has been shed over the relevance of each language amount to be addressed in the lessons, and the importance of planning for allocating both languages in the classes in such a way students develop their cognitive academic language proficiency in L1 and L2 at the same time.

A second definition regarding translanguaging that needs to be included in the current study, is the one presented by Garcia (2009), the author of the dynamic bilingual education model that frames the current study and which requires translanguaging to allow the co-existence of both languages in the classroom. It is defined as the access of different linguistic features of autonomous languages by bilinguals with the aim of maximizing communicative potential. The author explains that “translanguaging goes beyond what has been termed code-switching, although it includes it” (p. 140) and that it extends what Gutierrez et al. (2001) have called “hybrid language use” which is “*a systematic, strategic, affiliative, and sense-making process*”.

It is further explained that translanguaging makes part of an increasing tolerance at a classroom level towards multiple languaging practices as part of the linguistic range in the classroom allowed by the new types of bilingual education. Garcia (2009) argues that

translanguaging is a responsible communicative practice that offers communicative and educational possibilities to all, but that it should respond to separate language arrangements, which means that it should be included in certain points of the lesson for previously well-planned purposes. Additionally, it is stated that there has to be “*a social practice principle that places learning as a result of collaborative social practices in which students try out ideas and actions, and thus socially construct their learning*” (p.153). Translanguaging in linguistically heterogeneous collaborative groups helps students to try out their ideas and actions with the aim of learning and developing literacy practices. This is done through using languages flexibly to support understandings and building conceptual and linguistic knowledge.

Finally, Garcia (2009) refers to translanguaging as the language arrangement responsible for children’s bilingual acquisition and their learning in view of the fact that with language flexibility, they can appropriate both the content and the language, and both oracy and literacy. Therefore, it is used in the classroom to mediate understandings, to co-construct meaning and to interact with others.

As a conclusion, translanguaging in the classroom allows bilingual education to happen while a constructive learning is taking place. The authors’ definitions on the concept clarifies the use, importance, benefits and influence of translanguaging and its role in the dynamic model as defined by Garcia (2009).

2.3 Content and language integrated learning

After clarifying bilingual education and translanguaging, two of the four important and guiding concepts of this research; is pertinent to begin talking about the concept that will allow to talk about the way education is supposed to be all throughout the desire bilingual country; therefore, content and language integrated learning will be the focus and spotlight for us to be able to talk about the present research. Content and language integrated learning appears as a solution and opposition to Content Based Approach which draws its function in the use of the language through content of a specific subject, in this sense content and language integrated learning focuses on the goal of reaching content proficiency as well as language one.

Marsh (2012) states that CLIL involves the use of language-supportive methodologies leading to authentic learning where attention is given to both the topic and the language of instruction; which is essentially required in the project in order to have a successful bilingual education in all country's public schools, in this sense, learners will have proficiency in both the content of some subjects and as well, in the English language.

Furthermore, Marsh (2012) clarifies and makes strong emphasis in the fact that the subject is not taught *in* a foreign language but *with* and *through* a foreign language, meaning that the language is the means and the tool for learning, which is, what will allow students to have the opportunity to learn and use the foreign language in an efficient way,

not just to know the structure of the language but for them to be able to use it, in several ways, with several purposes and functions.

Marsh (2001) argues that content and language integrated learning should be done in small amounts during childhood due to the fact that, for various widely accepted theories, a language is better acquired during this period; this should benefit learners from kindergarten to upper grades in schools since, in this way learners can have the appropriate involvement and immersion in the language, learned through content. Marsh (2001) explains that this becomes a successful learning process when the child is encouraged to use the language and push beyond the “challenge of waiting until I (the student) am good enough in the language to use the language” (p.8). This means that motivation and encouragement play a big role in order for CLIL to be effective; students must feel comfortable and motivated enough for them to be able to use the language through a content matter, if the teacher does not make evident the importance and the usefulness of using the language through a subject, the whole process would be seriously affected, that is why, teachers have the big responsibility to before starting with the process, first, engage motivate and encourage students into it as much as possible.

Moreover, to the role of the teacher and the engagement of the learner in order for the implementation of CLIL to be effective, Coyle (1999) explained some of the aspects that must be considered in order to adapt CLIL to different contexts and for it to be effective; these, she referred to as “the 4C’s of CLIL” – content, communication, cognition and culture. She argues that these are factors which are intertwined in each other and in language teaching; consequently, they must all be considered and adapted in order to have a

complete and successful content and language integrated learning approach. Firstly, content is the starting point, from here, it is decided what is going to be taught and what language considerations are necessary; biology and mathematics will be then the content. Next, cognition is important because in order for CLIL to be effective, it must challenge students in the way that they think and analyze deeply the content knowledge been taught and for them not to think in the two subjects been taught through CLIL as a translation subject, but to think about it as it was guided in their mother tongue. Communication is also considered as it has been stated that language in use is the best way to learn it; this means that in order to have a successful CLIL experience, learners must interact with the subject been guided through CLIL, totally in English, it means communication with the teacher, partners and even note taking. Lastly, culture is a factor which is embedded in the whole process. This refers to our awareness of self and others culture, in other words, learners will be aware of two cultures in two language systems. These aspects, and how they are handled, must be considered in order to create a successful CLIL based lesson, which is the one expected in the present project.

In extent to the 4C's explanation, Marsh (2001) gives another important definition, CLIL offers opportunities to allow youngsters to use another language naturally, it means students to finally use the language without thinking in the language itself but in the content and the knowledge being thought and learned, for them to internalize the language and use it in a natural way. Following this idea, content and language integrated learning appears to be efficient when the student is capable of using the language for real world purpose, this means, real life communication in daily classes interaction, no matter if it is with the teacher, with a partner or even at the moment of taking notes.

Differing from Marsh, Quartapelle (2012) quotes Masih who states that CLIL's aim is "to provide learning outcomes in the chosen subject at the same level as the standard mother tongue curriculum; and to provide learning outcomes in the L2 which exceed the standard curriculum" (Masih1999:8), to say that learners have the advantage of addressing concrete issues of the real world in a language that is not their native language; it means that learners from CLIL are supposed to have sufficiency in the content thought in the second language, as if they were studying it in their mother tongue. CLIL classes focus knowledge of an unknown content using thinking skills to understand, analyze, synthesize, evaluate and communicate about; language enables to construct meaning and to express thinking, it evidences once more the big advantage and the great tool that CLIL is, for students to construct new knowledge through the internationalized and important language that is English, all round the world.

Following the same vein, Quartapelle (2012) have realized in his study that the students who had benefited from CLIL-style learning managed to master the contents of the discipline better than the students who experienced traditional teaching in their mother tongue, they were able to define more precisely what they had learned and give detailed information; and this is a very important factor of CLIL as in this way learners will internalize in much better ways the contents and consequently will have better opportunities on it, as if for example Biology is the subject being taught through a second language, learners who master this subject through this practice, will have better opportunities to study a similar career, as it could be medicine. To conclude, thanks to all characteristics and

benefits of CLIL, it can be seen how this implementations will highly benefit learners and what is more will highly benefit Colombian context.

2.4 Content and language integrated learning evaluation and assessment

Finally, we have already defined translanguaging, bilingual education and content and language integrated learning; is time to turn the focused to the final step and main focus of the current research, the part of evaluation and assessment of content and language integrated learning since it has been already mention the amount of benefits of CLIL practices, all of those benefits and supposed impacts in learners must be supported by empirical data, in order to deeply analyze how the implementation of CLIL in public schools has had either good or bad results and impact, for the Colombian context to have own research and data for further implementations to have a contextualized basis and a restructured concept of CLIL successful implementations in Colombian public education. In this sense, evaluation and assessment cannot be viewed as a final step but as a beginning one; since it would be the required resource which will draw what needs to be improved and even the things that need to be totally changed; for Colombian education to have a good bilingualism and continually for students to have better life opportunities.

To start with a concrete definition of evaluation, Nunan (1996) defines it as a stage which is parallel with other elements in the curriculum. In other words, he does not see evaluation as it has traditionally been viewed: the final component in the curriculum model. The purpose of evaluation is to see whether the objectives in a course are being achieved. That is why; evaluation has been taken as the focus and guiding process of the current

research, to take out evidence to establish how content and language integrated learning in Colombia should be thought and what are the needs and the adjustments that the process needs in order to be effectively implemented.

In addition to Nunan's evaluation definition, Baker (2006) gives the example of learning how to drive a car, then an individual's mastery of specific tasks is the criterion for passing or failing the car driving test, passing or failing the exams will be the evidence for the project to evaluate, if the application of the approach has been well made, if students are responding efficiently to it and if the content and the language are been satisfactory learned and internalize. Baker (ibid) also clarifies that an advantage of criterion-referenced language tests is that they may facilitate feedback, if the test reveals areas where the child's language requires developing, further action can be taken. To start with the definition of assessment, Llinares et al (2012), states that:

Assessment is not something that comes after instruction, but is an indispensable part of instruction. It is by thinking about assessment that we really start to sharpen up our idea of what CLIL is about and the role of language within it (p.280).

The affirmation that assessment is fundamental to the success of CLIL is similar to what Llinares et al states. In addition, Quartapelle (2012) states that assessment, largely consists of tests and exams taken at the end of courses of study in order to check progression through the curriculum, and this assessment in CLIL must be reliable and valid in view of the fact that it is crucial for its wash-back effect on learning; it must cover both content and language and take into consideration all aspects of CLIL communication in

their specific context; in this way the assessment will help the process and the learner to observe and clarify what has gone right and what needs to be improved.

Then, an important question draw by Quartapelle (ibid) is what to assess? and concludes that in CLIL the primary focus of assessment is on content; this means that assessment in CLIL may have more in common with the ways non-language subjects are assessed than with conventional language tests; that is to say that to assess CLIL practices, assessment tools have to focus on content since while teaching CLIL they have their focus on understanding new content and the language is the tool to do it, consequently assessment has to be aligned with it.

Accordingly, an evaluation model for CLIL should have the characteristics of authentic assessment and assume its procedures as Quartapelle (ibid) says, CLIL shows that it is an integrated learning, evaluation cannot be the opposite; this means that evaluation in CLIL has to assess in an integrated way both the language and the content, the assessment of language and content has to be made synchronously, having a detailed criteria of what is being evaluated relying on the L2 and content needs, in order for the teacher and the learner to know what are the failures, to consequently have the appropriate feedback and needed improvement.

Quartapelle, also concludes that self-assessment is a crucial moment, involving students in assessing their learning progress is highly positive and engaging for students; this kind of assessment encourages students to take ownership of their work through reflection and discussion about the learning process and results, students are consequently

more aware of the learning goals, both with regard to the subject knowledge as well as the language aspects, and are able to integrate this awareness into their own achievements, getting a feeling of progress and personal success. This widely tell us, that when evaluating and assessing CLIL practices, we cannot just limit to have a printed test for students to answer several questions, but that it is crucial that in the process of evaluation and assessment, self-assessment of learners is taken into account in view of the fact that it is with it, the way we have a complete evaluation of CLIL implementations.

3. LITERATURE REVIEW

The implementation of Content and language integrated learning (CLIL) has become an important approach to be used, as it gives learners the possibility not only to learn the language itself but also to reflect on what they are learning. Teaching subjects using the foreign language make it more contextualized and meaningful for students. It is important to include it in schools for better developments of language skills as shown by Varkuti (2010) students who are exposed to CLIL classes improve their usage of the foreign language than those who take language courses only. Also, teachers' training is one of the focus in this process due to their improvement in content language knowledge will be evidence in their students' progress.

Regarding CLIL, Manzur and Ramirez (2014) conducted a qualitative research study to implement bilingual classes through the use of CLIL practices in two state schools of Pereira. The general aim of the project is to document teachers' implementation of lessons based on the training they received during a previous research project and to give an answer to their research questions which are: -What can be seen in a dynamic bilingual education program implemented in two state schools based on content and language integrated learning practices? And, -What challenges can be evidenced in a dynamic bilingual CLIL implementation program? Given the purpose of implementing bilingual education in two specific populations, the authors decided to take for the study, teachers from two public schools: *Hugo Angel Jaramillo* and *Jaime Salazar*. In total, there were sixty-two teachers, nineteen English language teachers and forty-three content teachers. All teachers were Spanish native speakers, in the range of ages from twenty-two to forty-eight.

During that process, English teachers were taught in a program where they were provided with suitable aids to support content teachers in their classes. There were two phases to diagnose and to train teachers. The first phase to be considered was the level of teachers, which was measured by taking the *Oxford Online placement test*, which showed that more than the 90 % of teachers were between A0 and A1 levels and a minor part of them were in a B1 level. After knowing the results, the second phase was to train teachers with a professional development course to improve not only their language but also their methodologies to teach. The data collection methods were used to collect statistics regarding teachers' beliefs, attitudes, and perceptions towards the lessons they implemented. Consequently, to obtain the data needed, the instruments used were: observations, teachers' reflective logs and interviews. The observations of teachers were physically present in the classroom or with videos recorded by them. The reflective logs were made through questions about teachers' learning and teaching process and the interviews were carried out to take into consideration the teachers perceptions during the development of the project

After all the data were tabulated, the researches, finally took out three major findings. Firstly, emphasis was shifted in the challenges of the program implementation, during that first step, teachers expressed a positive attitude towards being part of a CLIL program due to the fact that they believed that it positively altered the way the English language is taught in a foreign context, moreover, it was found that content teachers required more second language training and vice versa English teachers required more training in content in order to successfully carry out CLIL implementations. Also, there was a misconception regarding the role of L1 and L2 during CLIL implementations in view of

the fact that some teachers when interviewed expressed that it is useful and others the contrary. The second finding, draws attention to teachers' perceptions regarding the previous knowledge of students, they noted that there was a generally positive reception of the methodology from the students and according to the teachers implementing the methodology, there were two major factors which affected the students' process of learning during their CLIL classes: previous knowledge in the second language, and previous knowledge in the content. To conclude, teachers' considerations regarding the implementation process was the final finding. Manzur, T and Ramirez, Y pointed out that teachers expressed the necessity of having appropriate materials as well as resources; secondly, the students' reactions to being active receptors of this methodology were good even when discipline problems happened, and finally lesson planning became the strategy to overcome CLIL implementation challenges.

As a conclusion, this project has led contributions that are relevant for bilingual content education in Colombia and more important for inclusive education in under privileged areas. Also, it included the use of translanguaging within a lesson, that is, dealing with the use of two languages as means of instruction for specific moments while avoiding translation. This study is useful to demonstrate the effects of a dynamic bilingual education program based on CLIL practices. However, as the current study intends to evaluate students in mathematics and science, a study related to Teaching mathematics in a second-language will be presented.

Corso and Robles (2011) conducted a qualitative research study in order to identify the types of scaffolding and instructions used by the mathematics teacher at a bilingual

school by teaching first-grade students in English. The researchers focused on the question of what is done by the mathematics teacher within a lesson to help students with their abilities in performing a mathematics class that is taught in English as a second language, as well as the particular characteristics of mathematics teaching in early grades at the institution. The study was carried out with twenty four first-grade L1 Spanish-speaking students aged six-seven and one homeroom teacher at a private bilingual school in Santa Marta, Colombia. In order to collect and analyze data, information was gathered through the application of various ethnographic instruments, such as classroom observations and teacher interviews.

Data was analyzed through triangulation in order to identify the various kinds of interpersonal interaction involving the teacher, instructional aides and students including students' interaction within the classroom that occurred during instruction in mathematics content in the L2. The essential purpose was to assist the teacher-observer in later work as a student teacher and a career teacher by improving accurate understanding of what classroom dynamics exist and how to impact them in the interest of high-quality instruction and scaffolding. Primary-level teachers at the school, some of whom are native speakers in the L2, provide the first stages of instruction in the L2 with the objective of identifying the general characteristics of a mathematics lesson that help students successfully understand the mathematical content in the second language.

The researchers conclude that in some classroom observations the teacher sometimes did not always exploit the students presumed background knowledge. However, the teacher generally did provide students with meaningful explanations that helped them

master the topic of the lesson. Also, it was found that the teacher showed awareness of the students' linguistics strengths and experience, and in this sense it was found that, code-switching, or a change of register, could be used as needed by both teacher and students as an aid to understand lesson content. In other words, through use of "mother tongue", ideas were made understandable, and thus helped construct the overall context for the topic under discussion. For further research, the authors state that working with children is very challenging since their eager curiosity can sidetrack an observer from the purpose of observing how a particular class or lesson is developed. It is important to be prepared to interview child participants or to implement a kind of journal that could capture their perceptions. Moreover, in a mixed level class, it is important to take notes not only about what the teacher does but also how they do it. Having copies, a lesson plan or the activities to be performed by the children gives the observer a wider view of the methodology and strategies used by the teacher. In general, the teacher's classroom performance is informed by theory at some level.

Lastly, after talking about what CLIL involves there is the need to have a discussion about what assessment and evaluation in CLIL is about since it is fundamental to the success of CLIL and as Llinares et al (2012) says "assessment is not something that comes after instruction, but is an indispensable part of instruction, it is by thinking about assessment that we really start to sharpen up our idea of what CLIL is about and the role of language within it". Then, Quartapelle (2012) becomes important for the current project, due to the fact that he conducted a three-year project with the aim of spreading CLIL methodology because it is evidenced the lack of publications about evaluation in CLIL, it is focused on how to assess and evaluate the effectiveness of learning a non-linguistic subject

in a foreign language. In order to guide the study, the main research question is, what assessment tools are the most useful for measuring performance in subjects learned in the foreign language?. The project has been carried out in nine different countries, each of them having different cultural background and school system; it has been experimented and checked at various levels of education systems, from primary school to university, adult education and teacher training courses; it has involved a great number of teachers and learners in Bulgaria, France, Germany, Italy, Latvia, Romania, Spain, Sweden and Turkey.

The data collection methods were, comparisons, implementation, observation and assessment, the institutions involved in the project produced a wide set of evaluation grids, rubrics, evaluation and assessment tools; the investigation was extensive and very detailed. The procedure or steps followed by the project were firstly, compare and develop ways of implementing and sharing CLIL projects and experiences in the schools of the participant countries, plan CLIL pathways; design and implement monitoring and evaluation tools; produce learning units; test the material produced in class, using monitoring devices; compare and disseminate the results through the social web and finally provide assessment and evaluation feedback.

After all the procedures were completed, the researchers drawn findings that have led to the common belief that CLIL methodology, in its different applications, allows students to acquire: real expertise in the chosen discipline; a better mastery of the mother tongue through contrastive procedures; a better mastery of the L2; transversal skills and cultural skills and that if the content and methodology of the subjects are engaging, they

enhance language learning, but also learning of the subject. Another finding regards with the acronym CLIL that clearly shows that it is an “integrated” learning and evaluation cannot and should not be just the sum of what the subject teacher and L2 teacher teach in their individual classes or in co-presence, they should take into account that assessment of language proficiency and content must be performed simultaneously, it means providing adequate grids, suitable for testing the L2 and content, the criteria, weights and objectives of the evaluation must be very clear and, if necessary, shared or released to students, as well, self-assessment is a crucial moment; involving students in assessing their learning progress is highly positive and very engaging for students, then from this perspective encouraging peer assessment can make students more independent and can give them some tools to monitor their progress. In addition, they observed that the content and methodology of the subjects are engaging, they enhance language learning, but also learning of the subject, they have realized that the students who had benefited from CLIL-style learning, managed to master the contents of the discipline better than the students who experienced traditional teaching in their mother tongue.

Moreover, it is stated that, assessment in CLIL should be more like the models offered by the disciplines than those commonly used in language lessons; the evaluations must take into account both the content of the subject and the language used in the CLIL experience, therefore an evaluation model for CLIL should have the characteristics of authentic assessment and assume its procedures. Besides, another finding, gives important attention to the substantial difference between the activities that have the characteristics of an exercise and those which have the characteristics of a task, since in the first ones the

answers are either right or wrong to give a rating, but tasks-which are generally the most appropriate for CLIL- require students' creativity then the response is not entirely predictable to a large degree thus it requires specific tools.

4. METHODOLOGY

The present section aims to describe to the reader all the information related to how the current study is conducted by stating the reasons for choosing the particular methods selected; and by also supporting with important citations to give a proper basis to the study. Further, it is going to be explained the type of study that was done, the context and setting in which it was carried out and the participants involved in the study. Moreover, it will be crucial to specify aspects such as the researchers' roles in the study, the methods used to collect data, and how data was analysed. Finally, some ethical considerations and consent forms that were relevant to the study will further stated as well.

4.1 Type of study

This study is a qualitative research as it seeks to explore phenomena upon a dynamic bilingual model; and the data collected is going to be described, analyzed and interpreted by using various methods contemplating perceptions, considerations and reflections that will be applied during the study. Hence, this study intends to fully describe what Content and Language Integrated Learning (CLIL) implementations in Colombian public schools need to have to be applied for students to have improvement and impact not just in their academic proficiency but also in their life opportunities. Moreover, "The aims of qualitative researchers often involve the provision of careful and detailed descriptions as opposed to the quantification of data through measurements, frequencies, scores and ratings" (Machey & Gass, 2005, p. 162); that is why, this study aims to contribute to the

Colombian own data of CLIL implementations by describing from different perspectives and methods what the positive and negative aspects are regarding the implementations that have been already fulfilled.

Additionally, the study is implemented in a natural setting. As stated by Tetnowski and Damico (2001) qualitative researchers aim to study individuals and events in their natural settings because this study is interested in schools. Furthermore, Machey and Gass (ibid) stated that “qualitative researchers tend to approach the research context with the purpose of observing whatever may be present there, and letting further questions emerge from the context” (pg, 216), as flexibility is taken into account in view of the fact of all the different situations and results that the study may need to successfully and widely draw useful and practical findings. Then, Mack, Woodsong, MacQueen, Guest and Namey (2011), stated that “qualitative research produces findings that are applicable beyond the immediate boundaries of the study” (p.1); that is to say that the current study intends to help other Colombian schools to have access to bilingual education through the implementation of CLIL practices.

Besides to what Mack et al (ibid) stated, Merriam (2009) supported that:

“Qualitative researchers are interested in how people interpret their experiences, how they construct their worlds and what meaning they attribute to their experiences; the overall purposes of qualitative research are too achieve an understanding of how people

make sense of their lives, delineate the process of meaning-making, and describe how people interpret what they experience” (pg,7)

In this sense this research will widely work on participant’s perceptions; and the overall purpose of this qualitative research is to achieve an understanding of the Colombian context bilingual education drawing CLIL as a means to achieve proficient levels of education.

Additionally, this research is a case study as well. According to Jacobs et al. (2013) “is a type of ethnographic research study that focuses on a single unit such as one individual, one group, one organization, or one program” (pg,29); that is to work either with a small group of students or to work with a sampling part of a school. More explicitly, Merriam (2009) states that “a case study could be a person such as a student, a teacher, a principal, a program; a group such as a class, a school, a community, a specific policy, and so on” (pg, 27); in this sense, this research aimed to explore how CLIL as dynamic bilingual education develops in a specific state school.

Furthermore, Miles and Huberman (1994), state that the case has to be in a bounded context, that is as Merriam (ibid) explains “if there is not a limit to the number of people, that could be interviewed or to observations that could be conducted, then the phenomenon is not bounded enough to qualify as a case” (pg, 28); in that sense, the present

project aims to study the phenomenon of CLIL implementations through grades from kindergarten to eight grades, taking into account ten students from each grade.

4.2 Context

The following section aims to give general information about the place where the study took place, including aspects such as location, type of school, grades, teachers, etc. In order to contextualise the reader, an explanation of the broader situation of the state school must be given. To begin with, this school belongs to an institutional organisation called *SUEJE* (Sistema Universitario del Eje Cafetero), created in September 2000. This organization is an integration of two public universities: *Universidad del Quindío*, and *Universidad Tecnológica de Pereira*. *SUEJE* attempts to create social and educational projects in order to improve the quality of life, particularly, in the *Eje Cafetero* region. As a result, the resources available at the school are provided by them such as updated libraries, sports, musical and recreational facilities. In this sense, this support from local public universities as well as funding from *SUEJE* is the one that allows various educational and social projects to take place. The decision through which projects are carried out, or which are given priority is based upon the specific needs of the school and its students.

Consequently, one of the academic programs at the *Universidad Tecnológica de Pereira* which is connected to *SUEJE* is the *Licenciatura en Lengua Inglesa*. This program was asked to intervene at the school by carrying out a bilingualism project called *Change*. The aim of this project was to develop and strengthen bilingualism practices and policies in

this state school in order to establish it as a bilingual institution. In this sense, three components were proposed in order to fulfil the development of the program: 1) Content teachers' foreign language instruction, 2) Teachers' professional development based on CLIL, 3) Curriculum design. It must be stated that these three components were not developed in isolation, but rather were intertwined throughout the whole process.

This project was carried out in two phases. Since the project sought to implement a bilingual policy through primary in-service teachers from the schools, the first phase was focused on teachers' professional growth. Teachers' professional development was designed within the project with three main components: 1. English language instruction. 2. CLIL instruction. 3. Empowerment program for English language teachers. The second phase, however, shifted its focus from the professional development and training of teachers to the actual implementation of bilingual classes through the use of CLIL practices. In this sense, the present study is focused on the third phase of the project – the students' evaluation phase.

As mentioned above, the project was implemented at one of the two state schools involved in change project. *Hugo Angel Jaramillo* located in the neighbourhood of *Malaga*, Pereira – Risaralda, which was founded in 2011 it has around 1150 students; between 40 and 45 students per class, and 36 teachers. *Malaga* is surrounded by the neighbourhoods of Los Angeles, Guadualito, Parque Industrial, Llano Grande, El Jordán and Comfamiliar.

This area is positioned in the “*Triangulo del Café*” and was founded in 2001, it is well known for the production of coffee and yams.

Due to the fact this school is located in economically deprived areas; it is evident that most students are under-privileged. This project was carried out at this school due to the fact that the institution is public in order to attempt to overcome the notion that only *private* institutions can be bilingual. Furthermore, this school do not yet have a specialisation in which it certifies their students in a specific field, e.g. *Bachiller académico con énfasis en tecnología e informática*. In this sense, one of the secondary objectives of the project was to explore the potential of the school being established as a bilingual institution.

4.3 Setting

In this section is described the school where the current project was carry out showing specific characteristics corresponding to the population.

Educational Institution: Hugo Angel Jaramillo

This State School is located in *Málaga* a neighborhood which belongs to *Comuna Del Café* in the city of Pereira with a capacity for 1440 students from vulnerable population. This mega-school offers a variety of extracurricular activities for students to get involved in

such as theater, marching band, dance and music lessons and cinematography .It provides students from primary school with food and also allows those ones who are older to take fast tracked educational courses.

There are a total of eight English teachers; three of whom have graduated from an English Language Teaching program, with the remaining five working as classroom assistants helping the English teachers in their classes. Although this project focused mainly on primary education, it must be stated that children from all grades (transition through to eleventh grade) take English classes. Before the project was implemented, they were exposed to two hours a week of English classes, but through the implementation of the project this was raised to six hours per week.

The school offers English to all grades from pre-school to eleven grades; through the implementation of the project, the hourly exposure to English was also raised to six hours a week, including one hour of Content and Language Integrated Learning implementation. Furthermore, it follows the standards proposed by the government in their document ““*Formar en lenguas extranjeras: inglés ¡El reto!*” (2006).

4.4 Participants

This section aims to describe the specific characteristics of the participants involved in the present study, such as their origin, gender, age, etc. Furthermore, Merriam

(2009) explains that an important characteristic of qualitative research is that the process is *inductive*, it means that researchers gather data to build concepts and hypothesis; in that sense this study aims to build hypothesis about how to implement CLIL in the two public schools. Hereafter, the participants that will be involved in the process of building those concepts and hypothesis are the students of the school and both English teachers as content teachers.

Besides, Mack, Woodsong, MacQueen, Guest and Namey (2011) state that “it is not necessary to collect data from everyone in a community in order to get valid findings” (pg, 5), that is why, the current project works with a sampling of both students and teachers. Moreover, Mack et al. (ibid) stated that “In qualitative research, only a sample of a population is selected for any given study” 8pg, 5) that is to say, that the project will be implemented taking into account a sample of the school population.

4.4.1 Students

The students who will be part of the study will be evaluated in terms of both language and content proficiency through English, which is their foreign language. In the institution there are 1440 students, the school is labelled as a mega-school as it holds a big amount of students and has both female and male pupils. In addition, the present research seeks to explore phenomena from kindergarten to eight grades of the state school; kindergarten students are from 5 to 6 years old, first graders from 6 to 7 years old, second graders from 7 to 8 years old, third graders from 8 to 9 years old, fourth graders from 9 to

10 years old, fifth graders from 10 to 11 years old, sixth graders from 11 to 12 years old, seventh graders from 12 to 13 years old and eighth graders from 13 to 14 years old.

Besides of the ages and gender of the students from the state school that the project works on, their origin is also a crucial factor; the school intends to increase the educational offer to students in displacement and vulnerability conditions.

4. 4. 2 English Language Teachers

To start with, there are eight English language teachers who are involved in this project. Besides, these English language teachers teach English at primary and secondary levels in the schools and all of them are Spanish native speakers, and their ages are approximately between 22 and 48 years old. English teachers were trained in the first phase of the project and during the process of implementation (phase 2 of the project), they helped content teachers design curriculum in order to mainstream the English language with Math and Biology content, for students to learn not just the language but also the content in such integrated way.

4. 4. 3 Content teachers

The other participants that are crucial to the present research were twenty-one content teachers. During the first and the second phase they were trained to be able to implement their Math and Biology classes through the English language from kindergarten

to eight grades; for them to carry out content-based lesson. Most of the content teachers from the school are graduated from different university programs such as: *Pedagogía infantil, educación física, recreación y deportes, comunicación educativa*, and other educational related programs.

4.5 Researcher's roles

The main focus of the present study is the third phase of the project – the assessment– where the intention is to document students' linguistic and content progresses. Thus, CLIL implementation will be evaluated and assessed in order to grade how the Change project has been carried out. The main role of researchers is complete observers. According to Fraenkel and Wallen (2009) when you are a complete observer you observe the activities of a group without involving yourself as a participant of those activities. The subjects may or may not realise why they are being observed.

In our case, we were there to observe the implementations of the evaluations in order to keep a record of what was happening through different data collection methods that are going to be described in the following section. Moreover, we were also involved in the design of the tests, but we are still defined as complete observers as we did not intervene in the actual implementations.

4.6 Data collection methods

The following section explores the different instruments used during the collection of data of the project.

In order to diagnose the effectiveness of the implementation of CLIL in the school, it is evidenced the importance of testing students to get results from what they already learn; it is also necessary to take into account the beliefs and opinions of teachers and students during the whole process of CLIL implementation.

Testing

Baxter & Seligson (1997) proposed that testing is a useful tool for evaluating and it is not only used to assess someone's performance but also to check the effectiveness of approaches regarding to language teaching. It is used by teachers to identify students' strengths and weaknesses in their process of achievement. When testing, teachers need to pay attention to two important aspects when designing test: Validity and Reliability. Validity refers to the relationship between what has been taught and the content of a test, also taking into account the level of students. Reliability means that the test works consistently if it is apply to two different populations that have in common the same level of proficiency.

Considering that students have been involved in a program of implementation of CLIL, it is time to assess what has been learned. In order to collect data, researchers find the need to test students in what they have been instructed by designing a test which uses translanguaging being a process to label the dynamic model of bilingualism integrating the

topics that have been covered during the process. Using this, students will be able to be exposed to both languages, English and Spanish for using their knowledge. Each grade has a different test and different way of application according to their level. Kinder garden to second grade are tested by the researchers by asking them questions orally; from third grade to eight grades are tested with a physical test. (See [APPENDIX 1: MOCK TESTS](#) and [APPENDIX 2: FINAL TESTS](#))

Interviews

According to Dexter (1970) cited by Merriam (2009), interviews are common means of collecting qualitative data, and they are implemented when it is not possible for the researcher to observe behaviours, feelings or how people interpret the world around them. They are created in order to collect data, to gather information, to listen to people's opinions and to realize about people's feelings facing a topic. Through interviews, researchers get information that is not easy to observe so that it can serve as a bridge to fill the gaps of the data gathered through the assessment process.

Thus, interviews in the current project are divided into two groups: content and language teachers, from kindergarten to eighth grades; and they were carried out after the assessment process. Additionally, there were some questions to be answered in order to hear teachers' perceptions regarding all aspects of the project and to make discussion in the different or similar opinions towards the process of CLIL implementation and testing. It has to be clarified that not all the participants involved in this research project were

interviewed, since a total of nine teachers were taken into consideration according to their attitudes and commitment towards the project. The questions included in the interviews were categorised in three sections: general perceptions towards the project, perceptions regarding the results of the tests and implications of the project. (See [APPENDIX 5: INTERVIEWS QUESTIONS](#))

4.7 Data analysis

In order to collect data for this research, there were used two instruments: test and interviews. The data gathering was done as follows:

1. *Qualification:* During this step, the researchers had to qualify the exams implemented in the corresponding grades from transition to eighth grade. The qualification was quantitative in the first instance to analyze the effectiveness of the implementation of the project
2. *Average of grades per groups and grades:* This step was relevant to know what the students 'level was regarding their exposure to the language through content subjects. First, the researchers took grades and averaged them for each group; then, to make it more general they did it by grades, obtaining a single average for each grade.
3. *Doing interviews:* In order to collect different views from content and language teachers, researchers audio record interviews; these are implemented to recognize

opinions of the teachers facing the current project, specifically to its beginning, its development and its final phase. Researchers establish twelve questions divided into three categories; the first category contains five questions related to general perceptions of the project, teachers answered questions respecting to CLIL implementation and students' position towards it. The second category includes four questions regarding results obtained during tests and regarding their own language and content improvement also the one from their students CLIL implementation. Finally, researchers ask for teachers' opinions related to the improvement the project has had and its importance within the educational institution.

4. *Transcription:* After having recorded the interviews from content and language teachers, researchers transcribe them digitally.
5. *Coding interviews-Comparing incidents applicable to each category:* in order to code information collected during interviews, researches assign codes for each participant. The codes mentioned include type of data collection method, teacher first' name and last name initials and finally it includes one number which refers to the number of the question they answered. In this way it will be: "IDM1" where "I" refers to the data collection method implemented, "D" referring to teacher's first name, "M" teacher's last name and "1" question number answered.
6. *Grouping per similar topics:* Having all interviews transcribed, researchers make a chart where there were two columns; in the right column, they write questions numbered from one to twelve used throughout interviews; in the left column,

researchers write each teacher's answer to those questions. After having done this, researchers analyse answers grouping the ones with similar content in order to obtain only relevant information which answered to question. For this grouping, researchers highlight using different colours to separate the different categories which emerged when analysing answers, in that way they can assign topics emerging to the existing ones. It is relevant to mention that during this process researchers have to simplify the sub-topics to form the most relevant information in relation to the object of the current study.

7. *Delimiting theory*: In this point, researchers compare all information gathered with theory they already have in order to support it. It is crucial to exclude information that is not relevant for the study and the topics took from the information collected in the interviews. Here, theory is delimited with set concepts, and then it is generalised when researchers start to make constant comparisons against it.

8. *Writing findings*: Different titles are established for researchers to write supporting by theory based on data collected which was previously analyzed. First of all, researchers will expose teachers' positive and negative perceptions towards the project; with that, some subtopics arise and will be explore in detail and supported by excerpts from interviews

4.8 Ethical considerations

In view of the fact that the present study involved working with teachers, students, and a school, there are some important ethical aspects which were considered during the planning, execution, and final analysis of the data. First of all, in terms of *access* to the schools, this was done through an alliance between *SUEJE, Licenciatura en Lengua Inglesa* from *Universidad Tecnológica de Pereira*, and the school involved – *Hugo Angel Jaramillo*. Due to the fact that the present study focused on the third phase of a project, this process of access to the schools had been previously done; therefore, researchers were not involved in it.

After access was granted to the schools, it was necessary to obtain *informed consent* from those involved at the different stages. In our case, data was collected through the means of two instruments: tests and interviews. For each of these, a format was included in order to explain to participants what they were about to be involved in, asking whether they gave their permission to use the data collected, and how the data would be used. This ranged from asking for permission to tape meetings or interviews, depending on the data collection instrument.

Additional ethical considerations were taken into account when analysing data and drawing conclusions. The first aspect considered was the *anonymity* of our participants. This was taken into account when transcribing raw data by giving every participant a “code”, rather than using their actual name. Further considerations of *confidentiality* were taken by not allowing anyone, other than the researchers, access the raw data collected, only they had access to meetings and interview recordings. In terms of the actual analysis

of the data, researchers had the responsibility to ensure to be objective, not allowing personal bias to be involved in the process; making the findings both valid, and reliable.

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5. FINDINGS AND DISCUSSION

Three findings are going to be categorized into nine sections which aim at developing and answering the three main research questions. Each finding will be described, supported, and explained through evidence and data. This provided the researchers with insights to explore CLIL implementation as dynamic bilingual education in a state school in Pereira.

5.1 CHALLENGES IN THE ASSESSMENT OF A DYNAMIC BILINGUAL CLIL AND TRANSLANGUAGING PROGRAM.

As it was mentioned, the current paper intends to assess the Change project after a training and an implementation phase were conducted by a teacher. Similarly, in order to make the assessment of the CLIL program, it was carried out the method of testing in order to analyze what was evidenced in relation to the linguistic process of students from kindergarten to eighth grades after they have been part of the first two phases of the project. During the implementation of different tests, it was evidenced that logistics had to be planned carefully in order for students to be focused on their tests and subsequently have good grade results. This was divided into two aspects: the logistics of the tests and the results produced after mock tests and final tests. In this sense, this finding has been divided into the following three sub-categories:

5.1.1 Logistics need to be taken into account in order to carry out CLIL assessment successfully.

The CLIL testing was carried out in two parts. First, it was conducted a mock test that was done with all students of all grades, and then a final test was conducted in which it was taken into account a sampling of students. The mock test was made from kindergarten to second grade in oral form because the students from these grades do not read and write yet. From third to fifth grades the test was conducted with students in their corresponding classrooms and the tests were projected in the board with a video beam. Learners had to look at the questions in the board and write their answers in an answer sheet. In addition, students from sixth to eighth grades were taken to the computers room; the school had two of these rooms, but in one of them most of the computers had software issues, so by using just the one which was available learners had the exams in a PDF file and they were asked to write their answers in the answer sheet.

After the applications of the tests were made, it was noticed that the tests from sixth to eighth grades had several issues. Even though the WIFI connection was turned off by the time the tests started, students happened to be distracted by playing games in the computers and they did not complete the tests during the time scheduled. As a result, it was necessary to conduct the final tests differently in order to have a better application and consequently better grade results. In the final tests, students from third to fourth grades were taken to the school auditorium (fig. 1). Everyone was given a printed test, they had to write their answers in the same paper in order to avoid distractions; in this way they could focus in their own test and complete it on time.



Fig, 1.

It was evidenced that the logistics were more satisfactory in view of the fact that the proceedings were planned and more organized. The school cooperated a lot, the administrative personnel played an important role during this process. They had already organized the auditorium, arranged enough tables and chairs for the one hundred and eighty sampling of students from third to eighth grades, that is, ten students from each grade. In each desk there were five students from different grades in order to avoid cheating or distractions. In the classrooms, from kindergarten to second grade the test was conducted individually in oral form, and taking into account a sampling from each grade.

The findings showed that, in general, logistics can either affect or benefit the application of the CLIL tests inasmuch as with the mock tests the logistics' issues that happened affected students attention; students did not have time to answer everything in the tests; thus, the results were poor. On the other hand, when the logistics were changed, that is to say, when the final tests were carried out in the school auditorium, it was proved that students were focused on their own work, most of them finished earlier than expected, and less noise was perceived.

5.1.2 Differences regarding quantitative results among different grades.

Given the description of how the tests were developed in this state school, now it will be described the results regarding the two tests.

As previously stated, students were divided into three main groups: The first group was constituted by students from kindergarten to second grade who had the test orally with successful results during the mock and the final tests. The second group was established by students from third to fifth grades. During the implementation of mock tests the marks were different; grades third and fourth obtained average of 1.6 and fifth grade obtain better results having a final average of 3.1. In the application of final exams, differences were evidenced in the averages. As it is shown in the figures, while students from third and fourth grades improved their grades, students from fifth grade did not. The third group was integrated by the remaining grades, that is sixth, seventh, and eighth, where the results were not as expected neither in the mock nor in the final tests, showing averages that do not exceed 1.3 (Figures 2, 3, 4, 5).

The implementation of CLIL requires students to develop all the correspondent activities that need to be improved for the project to be successful. Based on the grades obtained in the different levels, it was noticed that students were not motivated during the implementation of the tests.

Notas escolares colegio Hugo Angel Jaramillo																								
Gr. Transición	Gr. Transición	Gr. 1ro	Gr. 1ro	Gr. 2do	Gr. 2do	Gr. 3do	Gr. 3do	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to	Gr. 4to
3.5	4.2	4.6	4.0	4.6	4.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
5.0	4.5	3.9	4.0	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
3.7	4.2	5.0	4.1	3.9	4.2	1.6	1.4	0.3	3.2	0.1	3.8	2.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.2	4.2	4.0	4.6	4.5	0.4	2.6	0.8	2.0	1.0	4.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.9	4.5	4.3	4.1	4.6	4.2	0.0	2.2	1.0	0.3	1.0	3.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	3.6	4.1	3.9	4.3	4.5	1.5	3.1	2.1	1.6	1.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.6	3.6	3.8	4.5	4.4	4.4	1.7	3.0	1.1	3.0	1.0	4.2	2.8	0.5	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.6	4.0	4.0	3.9	4.0	4.6	1.6	3.3	1.1	4.0	0.2	2.8	3.2	0.6	0.0	0.5	0.2	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3.2	3.4	3.8	4.5	4.3	4.6	1.3	3.5	1.0	3.2	0.6	3.1	3.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	4.7	3.7	4.6	3.5	4.6	1.3	2.9	2.0	3.8	0.6	2.7	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.5	4.1	3.5	4.3	3.5	4.5	1.5	2.9	0.2	1.6	0.6	3.8	2.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.7	4.2	3.8	3.8	4.1	4.6	1.5	2.2	0.9	2.8	0.0	3.7	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0	4.0	3.9	4.5	4.1	4.6	1.6	0.4	1.5	4.2	0.6	3.5	3.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.2	5.0	4.1	3.9	4.4	3.6	0.5	0.7	1.7	3.8	0.6	3.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.7	4.5	4.0	3.9	4.5	4.3	1.6	0.7	2.0	3.0	1.2	3.3	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.7	4.3	3.7	4.0	5.0	4.1	1.1	0.2	0.3	3.5	0.6	2.9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.7		4.0	3.9	3.8	4.2	1.3	1.1	1.1	2.0	0.2	3.8	1.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.7		4.0	4.0	4.6	4.0	1.4	0.9	1.7	1.5	1.0	3.4	2.1	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0		4.4	4.1	4.4	4.1	1.4	0.0	1.3	2.6	1.0	2.2	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.7		4.3	4.3	4.3	3.6	1.3	0.9	1.0	3.5		3.6	2.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.0		4.1	4.5	4.5	4.6	1.5	1.1	1.3	2.8		3.5	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0		4.4	3.2	4.3	4.4	1.2	0.0	0.8	1.9		2.3	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.8		3.6	4.0		4.3	0.0	0.2	1.5	2.7		2.3	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		3.9	3.9			4.6	1.8	1.1	1.0	0.3		3.8	3.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		3.9	4.0			3.6	1.5	0.3	1.4	2.6		3.3	3.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		4.0	4.3			4.4	1.5	0.8	1.5	3.3		2.8	3.1	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		4.0	4.3			4.3	1.6	0.3	1.5	2.7		3.3	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		3.5	4.8			4.7	1.4	0.8	0.2			3.5	3.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		4.4	4.3			3.9	1.3	1.1	0.8			3.6	2.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		4.0	4.1			3.4	1.4	0.4	0.8			2.8	3.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		4.7	3.6			4.3	1.3	1.2		1.1		1.7	3.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		4.1	4.1				1.5	1.8				2.3	2.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							1.5	0.9				3.8	3.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
							1.6	0.7					3.3	3.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
								0.3					3.4			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
								0.9					3.6			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
													2.5			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
													2.7			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
													2.8			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Fig. 2

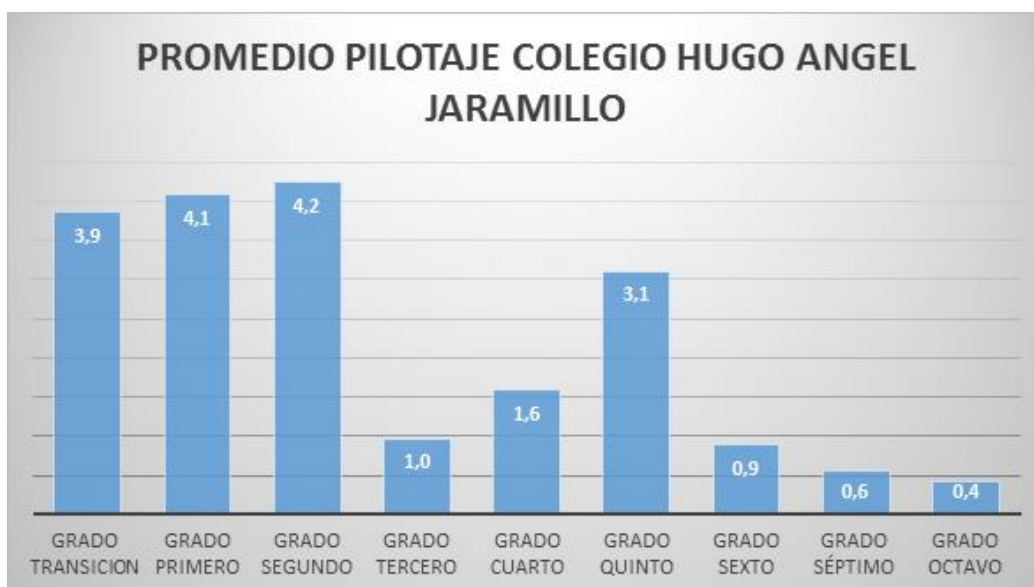


Fig. 3

Notas Prueba final colegio Malaga								
Transicion	Primero	Segundo	Tercero	Cuarto	Quinto	Sexto	Septimo	Octavo
2,8	2,8	3,5	2,9	1,9	2,2	1,6	1,6	1,0
1,5	3,1	4,6	3,0	2,0	1,9	1,2	0,8	0,7
3,5	2,8	4,5	2,5	2,6	3,4	1,2	1,3	0,8
5,0	3,8	4,4	2,0	2,2	2,7	1,4	1,0	1,1
4,5	4,0	4,5	2,9	3,0	2,6	1,6	1,3	0,8
5,0	3,8	3,8	0,7	3,3	2,7	1,6	1,5	0,7
5,0	4,0	4,1	3,2	3,0	2,6	1,7	2,1	1,2
3,5	3,6	3,3	2,1	2,2	1,8	0,8	1,1	0,6
5,0	3,0	4,0	1,7	2,6	2,2	1,7	2,1	0,8
4,3	2,8	4,5	2,3	2,6	3,1	1,1	1,8	0,9
4,3	4,3	4,3	1,3	3,8	1,8	1,6	1,7	1,0
5,0	4,0	3,9	2,5	2,6	3,1	0,8	0,5	0,4
5,0	3,9	4,5	2,6	2,6	2,4	0,8	1,4	0,3
3,5	3,0	5,0	2,4	3,0	2,4	1,1	0,7	0,7
5,0	1,3	4,5	1,2	2,7	2,1	1,7	0,8	0,5
4,8	3,1	4,2	2,8	4,0	2,2	1,7	0,3	0,5
5,0	3,8	4,0	0,9	3,3	1,8	0,3	0,7	0,6
5,0	3,0	4,6	2,1	1,4	2,5	1,9	1,3	0,8
4,8	3,5	4,5	2,9	2,7	4,0	1,1	2,6	0,8
5,0		4,6	1,7	2,7	3,5	1,7	0,5	0,9
				2,7		1,6	1,3	1,4
				1,6		1,1	1,2	0,6
				3,2		0,9	1,3	1,2
				2,6		0,8	1,8	0,8
				2,8		1,1	2,3	
				3,0		1,4	1,3	
				1,9		0,4		
				2,6		1,1		
				2,8		1,7		
				1,5				
4,4	3,3	4,3	2,2	2,6	2,5	1,3	1,3	0,8

Fig. 4

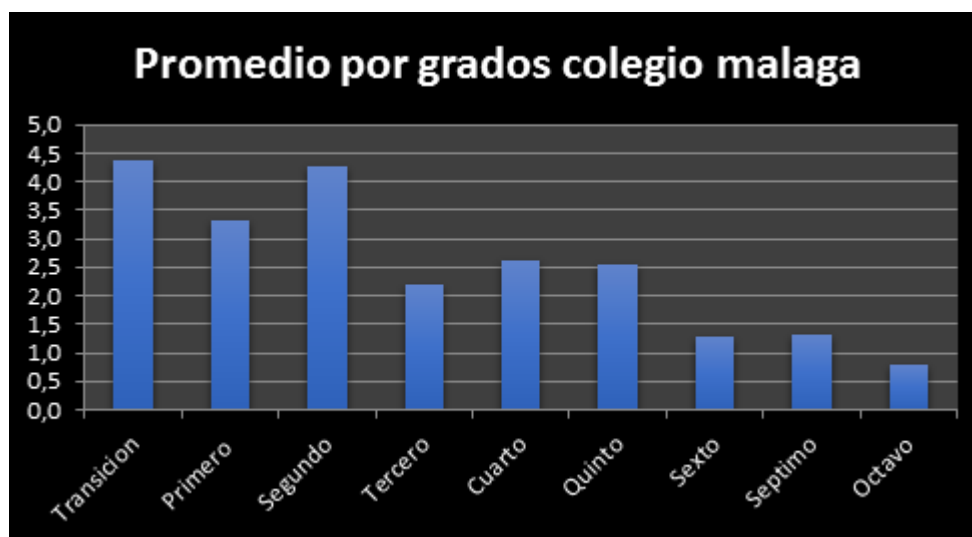


Fig. 5

5.1.3 Differences among the tests regarding qualitative factors.

There were some challenges that seriously affected the process of the mock test, such as the lack of motivation, and discipline issues. When learners asked in service teachers if the test had a grade and they said no, some students did not want to complete the test. As a result, most of the tests were not finished and others had very few answered questions. Hence, before performing the final test, students were encouraged to commit themselves and carry out the test responsibly. It was also found that after giving appropriate instructions in each group, some students disobeyed these and performed only science or math tests. The instructions were:

- 1. Open the “exams school Hugo Angel” located on the desktop. Then, open "math and science exam" folder.*
- 2. Perform the math test first and then the science test. You will have 1hr 40mins to respond.*

It was evidenced the lack of collaboration of teachers who were in charge of the groups as they did not handle discipline issues and sometimes they left the classroom.

Finally, it was noticed that during the final test students were more motivated to carry it out due to the teachers' aid since they talked with students before the exam about its importance.

5.2 TEACHERS' PERCEPTIONS TOWARDS THE INSTITUTIONAL PROJECT.

In view of the importance of results for their improvement, teachers were willing to answer questions regarding the process they have followed during the project in terms of resources, methodologies, and strategies. Different perceptions were considered towards the project and they will be classified into positive and negative. First, researchers will be describing positive perceptions, then they will move on to negative thoughts, and finally teacher's perceptions will be explored on students' progresses during the implementation of the project; all of these, will be supported with evidence and data collected through interviews.

5.2.1 Positive perceptions towards the institutional project.

In this section, there will be explored positive perceptions concerning all aspects from the project. First, considering its development, the perceptions that teachers had will be shown. Second, the use of translanguaging will be explored as a strategy in the current implementation. Third, researchers will cover the process of evaluation design used. Other aspects to be analyzed will be students' positive reactions towards content integration, the worthiness of English taught through content subjects, and last but not least, English domain in Colombia seen as a positive issue.

During the interviews, distinct positive perceptions were found from some content and language teachers who described the implementation of the process. They considered this as a positive opportunity for all participants to be part of English through

contextualized subjects in their first language. This opinion is supported by the answer of this participant:

***ELPI:** Buenos días, pues digamos que cuando iniciamos el proceso pues hubo de mi parte total aceptación porque siempre me ha parecido que es importante y que es necesario, entonces desde que iniciamos el proceso siempre lo he hecho con el mayor de los gustos.*

This first participant expressed her positive position regarding the project on the grounds that she considered that is pertinent to teach English in classrooms nowadays. A remarkable aspect was perceived concerning the expectations of the teachers. Most of the participants wanted to be involved in the project as this could impact positively their professional development, which in turn enhanced the willingness of improvement towards language skills for both teachers and learners. Hence, another participant mentioned that the integration of content and language can be seen as an opportunity, as the following excerpt shows:

***EPCI:** Pues haber me pareció como una buena iniciativa, ehh pues como integrar la parte del inglés como a la realización de la clase en general... igual pues era como la oportunidad como de aprender otras cosas, entonces me pareció como interesante.*

In agreement with the last teacher, this content teacher observed the integration of English through context subjects as an important step of the implementation of CLIL. She sees this as an opportunity for her students to improve knowledge they already have through learning new concepts in the foreign language. At the beginning of the process, the part of implementing English with content subjects was difficult for these teachers; many of them felt afraid to fail since they were not experts in the field of English as it can be supported by the next participant:

***EDMI:** Si nosotros no éramos profesores de lengua inglesa ni teníamos un conocimiento como acorde para estar dictando una clase en esa segunda lengua. Ese fue como el primer impacto, después al ir conociendo el proceso y al ir trabajando en él nos dimos cuenta de que pues era algo posible, que a medida de que se iba trabajando se podía ir mejorando.*

This fear of failure was common among content teachers since they did not feel prepared to handle their classes through a foreign language for their lack of proficiency in English. This perception began to change when they started their training process in the foreign language. That was done during the first phase of this project, where these teachers were trained to implement their classes through English language so they could be prepared to guide CLIL centered classes. By implementing the project, content teachers applied different strategies in order to make them clear and to encourage students to understand the implementation easily. One strategy teachers used was translanguaging, which is known as the parallel use of two languages in the classroom to develop language skills in both of them. This notion is supported by the following answers:

EDG2: *Yo creo que se ha hecho muy bien porque por ejemplo en mi caso dábamos todo en español y después en inglés y los chicos lo toman muy bien, porque primero aprenden el tema en español y después lo refuerzan con el inglés.*

EDM2: *Bueno pues me parece muy acorde y positivo porque pues los niños apenas están empezando a entrar en una inmersión en el inglés, entonces a pesar de que....pues también es importante ir involucrando a su lengua natal en este caso el español para que ellos comprendan totalmente el tema.*

Teachers perceived this as an opportunity for students to learn the subject matter as both languages are useful at the moment of learning. Also, teachers expressed that translanguaging was useful inasmuch as students were not that proficient for classes to be taught totally in English; so they considered the importance of using students' first language to reinforce or clarify topics through this integration.

In order to determine the efficacy of the integration, it was relevant to evaluate the project. The researchers inquired content and language teachers about students' evaluation and most of them agreed in one point, that is to say, the evaluation was accurate as learners have been involved in the project all along and it was necessary to check their progresses:

ELP1: *Me parece que es totalmente pertinente el realizar las pruebas como para verificar el estado de avance de los chicos.*

EBV1: *yo pienso que ha sido muy bueno sobre todo porque las que estamos más o menos entre segundo, tercero venimos en proceso con los niños desde transición entonces pues el proceso es mucho más fuerte.*

The two participants mentioned to be in accordance in the sense that students need to be tested to validate their improvement during this process. Based on the results obtained by elementary students, the second participant, who was a primary school teacher, considered that lower grades obtained better results in the evaluation part in accounts of the continuous process students in these grades have had since kindergarten. This shows that the proficiency of the tracking process of students is a crucial part of the project since it can be analyzed what has been done right and what has not in order to take the needed action. In general terms, these teachers' perceptions evidenced that although some teachers were not that proficient in English to conduct their subjects, they realized the advantages that this could have in the future for their own improvement and for their students; thus, they tried to do their best to conduct CLIL implementations.

Students' positive reactions towards content integration are now analyzed since mentor teachers have noticed several aspects. As a matter of fact, some teachers agreed that students reacted positively and naturally to this integration, as it is supported by the following excerpts:

EDG4: *ellos lo ven de una manera chévere porque ya no ven la clase de matemáticas como aburrida cuando se veía solamente en español sino que ahora con la transversalización con ingles ya ven más interés.*

EDM4: Pues para ellos es algo muy natural, como son temas que ya se han visto con anterioridad en español, entonces ellos ya saben de qué les estamos hablando entonces ellos lo toman como muy natural.

EBV4: Pues yo pienso que ha sido muy natural porque como le digo ellos han trabajado desde transición el inglés entonces no se siente como algo que surgió de un momento a otro,

Here, it was interpreted that teachers that agreed on students' positive perceptions are the teachers from kindergarten to fifth grade. They perceived that students reacted positively to the implementations since they are used to it. Similarly, teachers stated that students felt familiar with the topic and there is a methodology acceptance. The fact that younger students reacted positively to the methodology and they saw it natural can be attributed to the process they have been in for years which may concur with the years they have been studying. Moreover, it is important to highlight that teachers evidenced that students have changed their minds towards some subjects which before the implementation of the project they used to perceive as boring; now that they have worked through CLIL they show more interest in the subject which makes learning easier for them. Therefore, as learners have had a positive reaction towards content integration it would be also analyzed how teachers agree that is worth to teach other subjects through English.

As it is not common for public schools to have the opportunity to work English as a resource for learning content subjects, it is crucial to know and examine what the in-service teachers' perceptions are regarding the process. Besides, it is important to note the value

which learning another subject through English has. This is supported by the following reflection of an English teacher when questioned about whether she thinks it is worth or not to teach other subjects through English:

EPC3: Si, porque igual, por ejemplo pues al nivel de las cosas que desarrollan, pues la concentración, que otros aprendizajes, pues a mí me parece que sí es muy valioso, además porque en el caso pues de las ciencias es un tema que es digamos es a nivel global (...), y mucha de la información científica que uno encuentra pues está en ingles.

This participant highlighted how the process of learning content through English makes students develop other skills such as concentration. Also, she expressed that it is important to know English in accounts that a lot of scientific information is originally founded in English. Therefore, for this teacher and for learners, it would be great to work with the original texts of biology, science, or any other subjects. In this way, they would be learning new vocabulary, they would be practicing their reading comprehension skills, and perhaps they would not be reading wrongly translated texts.

The teacher also mentioned that working with CLIL helps students develop other skills, as Baker (ibid) highlights, translanguaging might promote the development of skills in students' weaker language, this is due to the fact that translanguaging attempts to develop academic language skills in both languages and full bilingualism; thus, students may carry out the main part of the work in their stronger language and then undertake less challenging

related tasks in their weaker language. This is quite relevant inasmuch as students are learning more than they would be learning when studying these subjects in the traditional way. As a result, this makes students more proficient since they are working on their capacities maxed out. In addition, teachers mentioned that this model of education is the future of Colombian education, as stated in the following excerpt of a content teacher:

EDG3: yo creo que es el futuro de Colombia que los chicos tengan ese acceso a la educación bilingüe y que se maneje una segunda lengua de esa manera.

This extract demonstrates how in-service teachers cherish the CLIL project in accounts that they think of the project as the future of Colombia, thus Marsh (2012) conveyed and made strong emphasis in the fact that subjects are not taught *in* a foreign language but *with* and *through* a foreign language, meaning that the language is the means and the tool for learning. With that said, a positive impact has emerged in teachers' perceptions towards the project, and as the mentor teacher stated, it is a benefit that students have access to this bilingual education. Then, it can be inferred that learners that are being exposed to the process are taking advantage of it and this is proving of the progress to the point that teachers see the indispensability of the project, in fact, they think that the process must continue. Referring to the previous point, this clearly shows that it is worth to keep working on this project; it can and must be implemented in more state schools in grounds of the fact that it is beneficial for students. If the schools and everyone involved work continuously, the educational outcomes of Colombia will be improved. In addition, teachers also stated that English can make students relate with more people:

EDM3: Sí considero que sea bueno, (...) porque el inglés no solamente se debería implementar en el conocimiento de verbos y estructuras sino como llevamos el inglés a nuestra vida diaria, cómo podemos relacionarnos con otras personas por medio del inglés.

Here, this participant explained that English should not only be worked around its form, but that it should be emphasized that as a language, students should use English for communication to talk about their daily lives, for instance. This is an aspect Marsh (1994) highlighted, by stating that learners should be encouraged to use the language and feel capable to do so in order for successful learning process to take place. It should be highlighted that students had the opportunity to be immersed in learning and using a second language. Through and with English students could expand their social relations when being able to use the language. In this way, they could apply to work or study in another country, they also would have better opportunities to travel abroad and improve their living standards. A different mentor teacher conveyed that an additional reason why it is important to teach other subjects through English is that topics are better learned and internalized:

EAG3: Por supuesto, ellos cuando se implementa ciencias naturales y se ve ese tema en inglés, ellos mismos parten del asombro y es fácil, y yo creo que queda mejor aprendido y de una mejor recordación el tema cuando se trabaja en las dos lenguas.

A relevant aspect is mentioned in this interview entry; thanks to the implementation of CLIL classes, the topics worked with translanguaging are better learned and internalized. Baker (2006) defines translanguaging as the parallel use of two languages in the classroom with the aim of developing language skills in both languages and contributing to a deeper understanding of the subject matter being studied. With that said, during the process, learners have to analyze concepts before elaborating them in an exercise or activity by understanding in one language and producing in other rather than simply copying and adapting text chunks into answers. In this way, students are taking more advantage of a topic due to the extra practice and reinforcement they have when working the subject through English which leads to a deeper understanding of the topics work through this methodology. In addition, Quartapelle (2012) have also realized in his study that the students who had benefited from CLIL-style learning managed to master the contents of the discipline better than those who experienced traditional teaching in their mother tongue; they were able to define more precisely what they had learned and give detailed information, which means that students have a deeper understanding of the content.

Regarding one final analysis, an in-service teacher gave an important suggestion; she mentioned that it would be important to expand the subjects that are implemented through English due to the amount of benefits found through using CLIL. See the following interview response:

EJA3: Pues si y sería bueno poder implementar como en sociales, también en artes, en los deportes.

Here, the mentor teacher made an important suggestion which has to do with adding other subjects to the CLIL process in view of the fact that it has been beneficial, it makes students develop and improve other related skills, and it makes the topics more practiced and consequently better learned. Garcia (ibid) states a clear distinction between foreign language education and bilingual education. She said that a foreign language is simply an addition to the educational system, while in bilingual education students are taught specific content through a language which is different to their L1. By integrating other subjects in this model, it would be valuable for students inasmuch as they would have more expand knowledge, more English practice, and more benefits. Not only as a bilingual education model but as an addition to the educational system. Besides, teachers declared that more than being worth to teach English through other subjects, it is also crucial the domain of English in Colombia.

According to the participants, English in Colombia is seen as a necessity that is required nowadays for having better opportunities in both educational and professional fields. Here are some extracts from the interviews:

***ELP11:** Yo pensaría que es una obligación el manejar dos idiomas, y pues el inglés es un idioma que es pues universal, cierto, en todas partes hablan inglés, entonces es totalmente necesario y pues en las escuelas públicas, pues mas, osea porque los de la pública no se pueden quedar atrás, osea en las privadas esto se maneja y los chicos de la privada pues vuelan en esto pero finalmente eso no se puede quedar solo para algunos, osea eso tiene que ser para todos y los del público lo tiene que manejar aún más y mejor.*

EGNII: Bueno me parece muy bien que el bilingüismo está en los colegios públicos ya que es una población la mayoría muy vulnerable y que esta oportunidad les llegue a ellos es algo muy grande porque ellos han sabido asimilar, han sabido responder con certeza.

Teachers agreed on the fact that bilingualism needs to be included in vulnerable areas as an opportunity for students to improve their knowledge in the sense that they will be citizens speaking a second language in a country that excludes susceptible populations. Also, teachers expressed that learners from state schools need to be better prepared in L2 more than students from private schools since they have less resources and lack of opportunities to have access to higher education.

On the whole, by implementing CLIL in their classrooms, several positive aspects were presented by the participants of this study as teachers expressed optimistic perceptions regarding the institutional project itself given that they encountered it as a good opportunity for them and their students to improve their language skills. Besides, teachers conveyed that in order to accomplish the purpose of the project, it was necessary to use different learning strategies such as translanguaging in order to help students to have a better grasp of the topics covered in the two languages. Teachers agreed that the evaluation process was necessary to check not only students' progress but also their own for future improvement. As indicated previously, CLIL project is beneficial in grounds of the fact that when students are exposed to the methodology they boost related skills and can expand their social interactions. In addition, teachers expressed that when topics are worked with English, they are better learned and they even exposed that the project should be worked with more subjects. The domain of English in Colombia needs to be included in state

schools in regards to its importance for students to improve their language proficiency as they will become citizens who speak a second language in a country that excludes susceptible populations. All of those positive aspects make evident the fact that teaching through CLIL methodology is not something impossible, complicated, with no function, and just for the elite. Now, the next sub-finding will be focused on students' and teachers' progresses regarding vocabulary, linguistic development, and pronunciation.

5.2.2 Perceptions for students' and teachers' positive progresses towards linguistic aspects

According to the teachers, it is evidenced that students had a positive progress regarding vocabulary knowledge and usage due to the fact that students recognize several content words, they are able to react to them and when listening, they are able to get the idea of what is being said, and they comprehend the message as it was said in their mother tongue. This was noticed in the following reflections made by in-service teachers:

EGN6: *(...) con el vocabulario, ellos ya saben demasiado vocabulario, les hablamos de los temas de ciencias naturales y matemáticas y ellos ya más o menos lo entienden.*

EP6:*yo si rescato como lo del vocabulario, por ejemplo hay más manejo de ciertas palabras, ehh ciertos conceptos ya los asocian digamos con alguna palabra en inglés ehhh por lo menos las cosas claves.*

EDG6: (...), *creo que el avance es significativo, está bien que ellos saben expresar los números y hacen operaciones con ellos, ya ellos dan los resultados en inglés, que es un avance (...)*

Here, teachers expressed that students have had a noticeable progress regarding the amount of vocabulary they know and manage, that is, after being exposed to several classes students are able to internalize and understand when hearing the new vocabulary. For example, in math subject, the teacher said that students made use of the introduced vocabulary already in order to carry out exercises. Besides, it is noticeable how teachers expressed that students are not just using the new vocabulary with the teacher in order to respond to subject matters but they use it in their normal interactions, as stated in the following abstract from a reflection made by an in-service teacher:

EJA6: (...), *ya entre ellos se hacen, pues, comentarios en inglés se dicen palabras en inglés y tratan de responder, entonces si ha habido una buena evolución ahí.*

This participant expressed that students are no longer using the language as something mandatory but that they are using the new vocabulary to interact among them. Garcia (2009) refers to translanguaging as the language arrangement responsible for children's bilingual acquisition and their learning. The author also states that learners can appropriate both the content and the language, and both oracy and literacy. Referring to the last argument, during the development of the project, this notion made students stop seeing English instruction as a duty and start enjoying the process by using the target language

naturally and taking advantage of what they learnt; it was inferred; thus, that the learning process became an enjoyable non traumatic process.

It is known that grammar is a difficult part to be learnt in any language that is why the following in-service teacher stated that students' progresses are more notable from the vocabulary knowledge and usage than from their grammatical knowledge:

EBV6: Pues yo pienso que el principal avance es como la oralidad no tanto la gramática sino como la oralidad (...), ellos se van apropiando mucho del inglés y de un vocabulario que ya tienen muy acentuado en su trabajo de clase, (...) ellos dicen, ¡ah!, bueno yo ya sé que significa eso, entonces lo dicen ya muy fácil y eso es muy importante.

This teacher acknowledged the fact that students happened to work and practice vocabulary and that is why they are able to use it more efficiently during the different classes; this is related to the concept of Cognitive Academic Language Proficiency (CALP), which according to Cummins (2000) requires the ability to make complex meanings explicit through the use of the language itself. Hence, it is important to highlight the role of working on vocabulary in our classes in order to avoid translating words. Through mimics, gestures, and synonyms, learners could relate words' meaning and they managed to comprehend new ideas. Students found this quite useful, they could construct the new vocabulary in an alternative way and they could recall, use, and understand words in context and in different situations.

In relation to pronunciation, there was an evident linguistic improvement from students and teachers. Teachers stated that they have improved the way they pronounced several words in accounts of the experience and practice they have had. Consequently, they can develop their classes in a more effective way; this is illustrated by the following excerpt of an interview in which an English teacher was asked about the progress she has noticed on herself:

EP8: yo si siento que a nivel de profes uno si ha mejorado el conocimiento de los conceptos, la pronunciación, ehh digamos como relacionarlos en clase, cierto, como ir digamos uno desarrollando la clase y poner el concepto en español y en paréntesis asociarlo como a la palabra en ingles; ehh los chicos, yo noto pues también como una de las cosas aparte del conocimiento de los conceptos y de la pronunciación.

The former teacher highlights that she has improved in terms of knowledge and pronunciation, as a result she can conduct her classes fluently. She links the content she teaches with the language, which is important for students since they are constantly working with and through the language. Most of the times, what she teaches are topics that learners have worked on in Spanish already or they have a notion of them; therefore, the new concepts they see are no longer isolated but they are continuously associated and recalled and students take advantage of the learning process as much as possible. It means that when a topic is introduced in English they are reinforcing it; as the following math teacher expressed:

EDG8: si, notablemente, si, los chicos aprendieron a expresar lo que son los números, las operaciones que siempre habían visto en español pero que ahorita lo estaban tocando en ingles, entonces eso fue significativo, ellos saber por ejemplo, “profe como se dice dividido en” ellos mismos preguntaban (...), a mí siempre me ha gustado el inglés, de hecho es una de mis metas poder hablarlo de forma fluida, y poder enseñárselo a los chicos a través del área de matemáticas, me parece interesante porque veo como los chicos se interesan por saber cómo se dicen las operaciones, como se dice, cosas osea los temas en inglés.

It can be interpreted from this excerpt that students like to see math content in English as they can learn how to make mathematical operations and express results in the target language. Besides, they are concern about knowing both the appropriate and corresponding vocabulary for different operations. Thus, it can be inferred that learners consider a subject such as math, which might be difficult for a lot of them, more accessible thanks to the practice done in the second language. In addition, the teacher from the previous excerpt highlighted that he has always liked English and because of that, he has as a goal being able to speak it fluently so that he can teach it through the subject he is in charge of.

Here, it is crucial to highlight the important role that plays the “willingness learning”, that is to say, if all the teachers feel the same as this teacher does, the training process would be easier and faster, which in turn would have better results in students as they would be exposed to improved CLIL classes in less time. Nevertheless, teachers who do not express liking English that much or having facilities, also state that they have had some improvements as we can see in the following in-service teachers’ reflection:

***EDM8:** en mi parte creo que sí, se me mejoro mucho mi capacidad de interactuar con el inglés ya que la verdad se me hacía muy difícil (...), en los estudiantes, al momento de uno dar las clases se puede dar cuenta que cuando se les está hablando de algún tema con solo un recorderis ellos vuelven a traer como todo ese conocimiento que ya le hemos dado osea que su vocabulario en inglés también se les ha ido como alimentando y creciendo.*

***EBV8:** Pues yo pienso que, si he mejorado mucho y de hecho pues ya no estoy en el nivel básico del grupo sino que estoy en el avanzado, yo al inglés lo veía como algo muy maluco, para mí era muy maluco el inglés ya ahora me gusta mucho y eso se ve también como en lo que uno le traduce a los niños porque si a mí no me gusta, eso es lo que le voy a proyectar a los niños, cierto, entonces pues el primer cambio se dio ahí y a los niños a ellos les encanta pues como el inglés.*

These former teachers emphasize that even though they used to have difficulties with the language, now they are working towards it and they have shown a better interaction in terms of language skills. It was noticed that although some teachers and students did not like English, once they encountered this dynamic way of learning, they started getting involved in the proceedings and saw progresses; consequently, they felt more engaged in improving their proficiency levels. Besides, she mentioned that by experiencing the process by herself she could share with her students the fact that even when you feel apathetic to something, once you get involved and see progresses, you can change the negative initial thought to a more positive one.

The first in-service teacher highlighted that when she mentions previous vocabulary to students and makes a little review about it, they recall them efficiently, so it is proving that their lexicon has been improved as they just need a little review to recall words; therefore,

it is concluded that previously introduced vocabulary has been both practiced and internalized. In addition, other teachers expressed that a difficult aspect such as pronunciation, has been also improved thanks to the PD instruction and practice they have had, in fact, students are able to assimilate new concepts when being introduced in English. This is illustrated by the following extract of one of the reflections made by a content teacher when being asked about what she evidenced regarding her students and own progresses:

EJA8: Si, si mejoró, pues tanto en ellos como yo si mejoramos o sea a mí personalmente, mejore la pronunciación, que es muy complicado, a ellos pues un poco en el vocabulario, poder escuchar y asimilar ciertas cosas, (...) el solo hecho de colocar nuevas palabras, el que las escuchen, como se asimila con el español, cual es, tener que buscar relaciones, pues bien.

As previous teachers have expressed, she thinks pronunciation is a difficult aspect of English, but she has been able to improve it, and learners have developed strengths in managing vocabulary. Regarding the CHANGE project, it has been expressed that both students and teachers have had several improvements in their English learning process in relation to knowledge, usage, and pronunciation as a result of this long process. Moreover, teachers also expressed that the linguistic development they and their students have had is significant in accounts that from the beginning of the project (from the first and second phases) they have been noticing how their outlook on the language has changed thanks to the progress they have been able to experienced. As stated in an interview with a content teacher, students are using the language in more effective ways:

EDG9: *si claro (...) cuando ellos hacen las exposiciones, (...), el proceso se puede evidenciar en el contenido y el desarrollo de los temas, cuando ellos son capaces de expresar mmmm se les nota el avance cuando entonces hacen exposiciones en ingles, cuando uno les nota que ellos intentan decir las palabras, se les nota el avance (...) fue muy interesante ver que por lo menos ellos tienen la actitud de expresar, querer expresar las cosas en ingles y creo que eso es importante cuando ellos intentan hablar en inglés, cuando ellos quieren tener pues el manejo de algunos conceptos en ingles.*

Here, it should be highlighted that the teacher reported how remarkable is that students are willing to manage and express themselves through the language; this is possible due to the work that has been done through the three phases of the project. Also, the continuous instruction in the Professional Development course these teachers have been part of, makes them able to expand and train their English knowledge so that they can conduct structured, contextualized, and planned classes which happens to be meaningful for their students. Subsequently, learners take advantage of these constantly improved lessons and that is why they have perceptible progresses. Accordingly, teachers stated that when the subject matter is encouraging and students are motivated, they are more attentive and willing to learn the content through the target language as supported by the following in-service teacher:

EBV9: *Si, yo pienso que si ha habido un avance, se evidencia mucho más aprendizaje ehh, pienso que en donde ellos han mostrado más como interés, ha sido mucho más significativo ha sido en el área de ciencias naturales en donde se trabajan temas muy relacionado con el ambiente, los animales entonces son temas que son de mucho interés en estas edades donde están los niños.*

This participant acknowledged the fact that when students are motivated towards something, in this case biology, they are more receptive as they see it meaningful, so they are more interested and they learn more explicitly, which in turn makes the process easier and faster. Also, the teacher said that as she works with kids, the topics from biology are more interesting for them as they are related with the environment and animals. Therefore, the tasks conducted during these lessons are internalized by students in a more lifelike way as they are not concerned about language forms.

In general terms, mentor teachers emphasized the fact that the process has several positive results as they noticed the importance of the project. They expressed how both students and themselves have improved their vocabulary knowledge and usage, their pronunciation, and their linguistic development. As a result of those in-service teachers' perceptions, it can be inferred that the project CHANGE is a valuable and crucial promise. Even though it might need time and might seem difficult to implement, it led to positive results for all the educational system in which it is worked. Now, the focus is shifted to the challenges and negative reactions regarding students' and teachers' perceptions towards the institutional project.

5.2.3 Negative perceptions and challenges towards the institutional project

During the implementation teachers expressed a positive attitude towards being part of the institutional CHANGE project; however, teachers expressed their thoughts and concerns about the use and implementation of CLIL and translanguaging. This was

evidenced through the interviews carried out. An example of this is the following excerpt from an interview regarding teacher's perception of the program in general:

***EPCI:** pues me parecía como un reto porque quizás pues no es como el fuerte de uno, entonces no es como la competencia que de pronto uno desarrolla de la mejor manera.*

This participant expressed how English is still seen as a challenge for content teachers since they are not proficient in the second language in order to plan and develop lessons with the integration of English. In this sense, it can be inferred that from the beginning of the project until now, teachers find difficulties in teaching content through another language. Additionally, some teachers were scared and reluctant to learn and teach English as the following excerpt evidences:

***EAGI:** al inicio del proceso se sentía un poco de inquietud, pero esa inquietud de pronto camuflaba el miedo porque cuando en nuestro medio aún se habla de una segunda lengua algunas personas o en general se puede decir en el medio educativos siente como un rechazo, pero ya luego que se inicia y se empieza a ver las bondades que tiene una segunda lengua.*

This participant expressed that in the Colombian educational system there is a rejection of the second language in terms of teaching and learning it. Even though participants felt afraid, they also noticed that once the process is started there is evidenced progresses. It is important to note that when people start with something new, even more

with something that is always told to be difficult, it is normal that they feel afraid, but the important aspect is not to hold onto that fear but to start learning how to overcome it. Consequently, most of the participants saw the project as a challenge they had to overcome not only by themselves but with the community in general. In addition, according to the participants, the use of both languages in the classroom was seen as a challenge since teachers felt that teaching L2 through different subjects was complicated when they are not proficient in the language. This can be exemplified by the following extracts from interviews:

EP2: si veo la dificultad porque digamos uno a veces en español el vocabulario es muy pobre, entonces como al tener un vocabulario pobre en la lengua que uno maneja, incorporar otra a veces es un poquito complicado.

EJA2: Pues, es muy bueno, pero por ejemplo en mi caso es complicado porque explicar matemáticas en inglés es(...), a veces en español se les complica un poco, (...) y fue una buena experiencia aunque es un poco complicado.

One of the aspects that several teachers pointed out was the fact that they found it difficult to teach other areas through English since they feel only proficient in the content of the subjects they teach. Also, one of them expressed that math is a difficult subject to explain even in his mother tongue; explaining in English sometimes was complicated, but he reported that it was a good experience. Further to the previous example, although participants found some aspects which happened to be difficult to implement and learn,

they can say that it was something positive to experiment with since all of those aspects give them more experience to improve their performances.

Teachers' perceptions towards students' reactions regarding content integration are presented. Some teachers agreed that students are reluctant and apathetic to it, as it is supported by the following excerpts:

***EPC4:** pues a ellos al principio no les parece porque digamos ellos están como muy, pues digamos como que muy en la cabeza, esto es biología, esto es matemáticas y esto es español e inglés es otra cosa y como así que usted viene a darme ingles en ciencias.*

***ELP4:** son totalmente apáticos, mmm, ha sido difícil y pues con los chicos, con algunos chicos pues ha sido difícil porque ellos protestan, no estamos en ciencias o estamos en matemáticas, no queremos ver inglés.*

***EJA4:** Pues ya en este momento, es mucho mejor que al inicio, porque pues al inicio era distinto por el mismo contexto de que ellos eran un poco apáticos.*

According to the teachers, one of the challenges they faced was that older students have a negative attitude towards CLIL and second language learning. Most of these students came to the classroom negatively predisposed to learn the language. However, teachers also agreed on the fact that once students began to realize that the methodology being implemented included the content they were familiar with in other classes, they

began to become more interested in learning inasmuch as they had the opportunity to learn twice the same topic and strengthen topics they had difficulties with. Thus, the improvements teachers suggested will be taken into account in order to have a better impact in all aspects.

Moreover, according to teachers' statements, the project needs some improvements. Teachers stated that as the project has a lot of benefits and there are positive progresses based on what has been done right, there are still some aspects that could be improved in order for the project to have a better impact on itself and the institution. As mentioned in the following interview excerpts, an important aspect to be improved according to mentor teachers has to do with the support from pre-service teachers in the classroom:

EGN7: (...) un poquito más de ayuda por parte del estudiante,

EBV7: Yo pienso que es muy importante el acompañamiento, que ese ha sido pues primordial, porque pues finalmente ustedes son las más empoderadas del idioma entonces si nosotros lo implementamos solas y solamente vienen a hacer la observación entonces no es tan enriquecedor como cuando ellas vienen e intervienen y nosotras hacemos como la réplica. Pienso que sería muy importante como tomar en cuenta eso.

EP7: (...) a veces ha sido una dificultad los tiempos (...) ehh no yo pienso que sería más como concretar tiempos.

These teachers reported how the classes conducted by pre-service teachers are crucial for them in order to have a guide regarding how to conduct the classes, strategies used, and English methodologies because when they observe a pre-service teacher they can copy and implement the good aspects they notice in their own classes. Besides, the support from pre-service teachers, mentor teachers mentioned that they need more support time so that the process can be more enriching. Furthermore, mentor teachers highly expressed that there is lack of resources for them to have a better performance in their classes; this is illustrated in the following teachers' answers when they were asked about what should be improved to have a better impact in the CLIL project:

EPC7: los recursos, entonces yo pienso que el proyecto debe tener una prioridad dentro de la institución, pues es difícil, pero me refiero a una prioridad en la disponibilidad de los recursos, por ejemplo teníamos un video que llevaba una actividad y no, no se puede ver el video, no funcionó el computador o no funcionaron los bafles, entonces, ¿que tocó hacer?, como improvisar, entonces ya no se logró el objetivo.

ELP7: pues de pronto tener más material, de pronto en la biblioteca no tenemos tanto material, hay muchas cosas que las tenemos que buscar por aparte o que las tenemos que diseñar, (...) hace falta tener guías, o sea tener la posibilidad como de ese tipo de cosas.

EDG7: creería que utilizamos los recursos, pero sé que hay más, aquí hay más recursos y por ejemplo uno de esos mejoramientos que podemos hacer es

implementar la tecnología, hay que implementar lo que es el video beam, incluirlas dentro de lo que son las clases para la facilitación de inglés y manejar programas, porque los chicos son muy dados a la tecnología, eso es un tema que los atrapa mucho, y hay que jugar con eso, con la posibilidad de que ellos se enganchen con la tecnología.

Here, in-service teachers agreed that there is lack of material in the institution; hence, they cannot develop their classes as they would like to. For instance, as it was mentioned, a mentor teacher had planned an activity with a video, but the resources were not available, then, the activity had to be omitted and the aim of the class was not achieved. This hinders the process since teachers try to make the best to conduct their classes in a dynamic way, but this part was not included, so students missed the opportunity to have a varied learning input. In addition, teachers mentioned the need of different resources such as textbooks which would give them the opportunity to have different kinds of exercises and activities to implement during classes, in this way, they will avoid having board centered classes in which students may feel demotivated to be copying from the board all the time what the teacher writes. In the last excerpt, the teacher reported the importance of improving technological resources as he notices and highlights the interest students show towards it, so he suggests that that interest should be boost. As the use of technology engages students, having enough technological resources in the schools should be a prime change to be considered in order for students to have the best learning environment and better outcomes.

A different mentor teacher stated that there is lack of teacher standards for them to know what steps to follow in the CLIL project:

***EDM7:** También darnos a los profes como unas pautas de cuáles son los pasos a seguir y como todo proceso tiene, un ejemplo es una escalera, qué debemos hacer en cada escalón para poder avanzar al siguiente.*

This participant's answer showed that although teacher's training has been done during the whole project, it is necessary to make an instruction manual with the steps teachers have to follow in order to guide their CLIL classes. Some other teachers have expressed that they do not feel the same impact when they guide the CLIL class than when pre-services teachers guide them, it would be useful to have an instructive for them so that they can plan and teach their classes on their own. In addition to the fact that it is necessary to implement resources and to make an instruction manual for teachers, another mentor teacher stated that the amount of hours in primary for CLIL classes should be increased as reported in the following excerpt:

***EJA7:** osea tener más intensidad horaria en primaria, cosa que cuando los muchachos lleguen a bachillerato pues ya estén mucho más formados y sea menos difícil el trabajo de ellos, y a los que ya están seguir fortaleciendo ehheh todo el trabajo, vocabulario ya sea hablar o escuchar, todo eso.*

This participant acknowledged that the amount of hours in primary should be increased in accounts of the fact that if this is achieved when students get to middle school they are

going to be more trained and the work would be easier. Also, students' outcomes would be better which in turn would have a remarkable impact not just in the project but the whole institution would be benefited. Besides, it was expressed that the work with other grades has to be strengthen so that all grades have better outcomes.

6. RESEARCH AND PEDAGOGICAL IMPLICATIONS

This study was implemented to diagnose the process students and teachers have had during the implementation of content and language integrated learning as part of the CHANGE project in a state school of Pereira. As stated in the research questions, the current project aims to describe the linguistic process students have had through the implementation of CLIL as well as the implementation of translanguaging strategy for the development of the project.

Based on the results, it was noticed that CLIL is a difficult process to be implemented in state schools but it is not impossible. Students and teachers showed desire to improve their proficiency. Besides, as the implementation took place in an unprivileged area, it was thought that progresses would not be noticeable; on the contrary, students cherished and committed themselves with the project which led to positive results in general.

Although teachers did not have a high English proficiency level to conduct CLIL, mentor teachers mentioned that they felt committed to learn the language and at the same time they felt comfortable teaching, which in turn happened to encourage students as well. Likewise, in-service teachers mentioned that resources were limited in order to creatively conduct their classes; for instance, they found difficulties when it came to use videos to illustrate any topic through dynamic activities, that is, they did not have the opportunity to use technological aids, but they were creative enough to overcome this challenge.

In addition, more hours of English exposure are needed so that mentor teachers can both feel comfortable and learn further when implementing CLIL. That is to say, content teachers required more accompanying time from pre-service teachers from UTP in order for them to be able to have an accurate model to conduct English classes and follow positives traits they notice in relation to the classes of these teachers. Furthermore, it is needed to record constantly students' and teachers' performances through tests in order to prove the development of the project. In this way, it can be analyzed whether or not the project has ways that should be improved, issues that need to be changed, and aspects that should be replicated. Following the same vein, although the results of tests might not be excellent, it does not mean that there is no progress. The quantitative data is not the only source to evidence progress; the value and progress of this project was also found through the willingness, acceptance, commitment, and autonomy from teachers and students.

Since the beginning of the project, the researchers were involved in different activities such as the designing of content tests for students from kindergarten to eight grade, the implementation of the proceedings, and the assessment process of the tests. All of those activities helped the researchers to get experience on how to guide research studies and how to work with students in the bilingual process. Once the theory and the purpose of the study were clearly defined, the researchers started with the data collection process. During this data collection process, the researchers had to test students' content and linguistic knowledge in science and math and make interviews for the teachers in order to keep a record of their perceptions towards this study and the CHANGE project. Therefore,

this experience had a big impact on the researchers' development given the fact that they participated actively throughout the analysis of quantitative and qualitative data.

Additionally, research requires individuals to learn to solve problems. When experiments don't work or researches get results they weren't expecting they do not give up. Researches should investigate why things did not work and what they could do next time to get better outcomes.

7. CONCLUSIONS

This study aimed at exploring challenges, content perceptions, and language integrated learning implementation as a dynamic bilingual education model in a state school in Pereira. As it was primarily stated through the research questions that guided this project, this research process allowed the researches to categorise the results into two sections and 6 sub-sections as they were being found.

Taking into account the analysis of the data, it can be concluded that CLIL assessment carries out several aspects that need to be taken into account for results to be appropriately correlated with students' outcomes. Hence, it was found that there are three major aspects regarding CLIL assessment processes in the state school. The first one makes allusion to the fact that logistics need to be taken into consideration in order to carry out this kind of assessment successfully, and the two others refer to quantitative and qualitative factors among different grades.

First, when assessing the current project it was carried out a mock test. Primary students were evaluated in their own classrooms and the tests were projected on the board. From sixth to eight grades (one hundred and eighty sampling were used) ten students were selected from each grade. It was evidenced that students' results were poor due to distractions and incomplete exams; consequently, in the final test, it was decided to have learners being taken to the school's coliseum and each student had a printed test. Regarding the improvements in terms of the final test logistics, learners who participated were able to finish their tests, neither misbehavior nor cheating was reported, distraction were not

detected, students were focused on their own work, most of them finished earlier than expected, it was more organized, and less noise was perceived. Based on the final test, it can be concluded that when assessing students, it should be considered not only their knowledge about distinct topics but the logistics during the implementation inasmuch as this will definitely affect students' performances and subsequently their grades. It is clear that students' attention is crucial when completing any task, for if students are in a disorganized and loud environment they will not be able to concentrate on what they are asked to do, they will not understand instructions, and they will not finish what during the time scheduled.

Secondly, there were differences evidenced regarding quantitative results among different grades. As it has been previously mentioned, students were divided from kindergarten to second grade, third to fifth grades and sixth to eighth grades. It was evidenced that students from kindergarten to second grade had successful results with an average of 4, 1 including mock and final test, which means that the logistics of their tests were appropriate. This is an important aspect because these students are in an early English immersion and are continuously working with and through the language, so their knowledge and performance is more remarkable than other grades.

From third to fifth grades, the mock results were different. Third and fourth grades had an average of 1,6 and fifth grade had an average of 3,1, which shows that due to logistics and motivation, the results of the tests were not balanced and did not show high levels of proficiency. In the application of final exams, there were differences in the averages; whereas students from third and fourth grades enhanced their grades, students from fifth grade did not, then it can be concluded that logistics and motivation positively affected

results. In sixth, seventh, and eighth grades, neither in the mock nor in the final tests the results were not as expected as averages did not exceed 1.3. Hence, those results indicate the importance of having learners immerse in the language from early grades. Older students were not willing to learn a second language as the others did. Also, they did not have the same children's ability to grasp meaning to learn a new language and the capacity for indirect learning, which makes their process to be more challenging.

Finally, in relation to qualitative factors, differences were also found among the tests. Even though it is based on one grade, most of the students who did not finish their tests were demotivated since they realized the test was not going to have any repercussion in their grades. Then, it was concluded that students needed to be encouraged so that they demonstrate commitment and responsibility. On the other hand, during the final test, some students were more motivated to carry out the exam thanks to the support they had from their teachers, for example, before the exam, learners were explained the importance and the aim of the tests. Student's performances are directly affected by several aspects as it has been previously mentioned, but quantitative results should not be the only source of data when analyzing students' performances and project effectiveness. Teachers have to make sure students stop seeing assessment as a complicated aspect, and learners should be encouraged to consider this process as an opportunity to growth as well as a tool for them to know their outcomes in relation to the whole process; therefore, aspects like commitment and motivation should be taken into account since these factors can evidence a broader spectrum of students' abilities and weaknesses to be improved.

Teachers' perceptions about the implementation of content and language integrated learning through the use of translanguaging generated some conclusions according to the evidence of the linguistic process covered. Throughout the development of the process, teachers were willing to collaborate when answering the questions proposed during the interviews which included topics such as general perceptions towards the project, results concerning the assessment part, implications, and challenges. With that being said, positive and negative perceptions will be explained in this section.

Taking into account the analysis of the data, it can be concluded that CLIL implementation brought positive reactions towards the project. First, teachers agreed that by having content subjects such as science and math linked with English language, students can increase their knowledge in grounds of the fact that they see the same topic twice. Teachers considered the integration of English through content subjects as an important step of CLIL, for this is an opportunity to improve knowledge learners already have through learning new concepts in the target language. Content teachers applied different strategies in order to make them clear and to encourage students to understand the implementation easily. Teachers utilize translanguaging as a strategy; they considered it as an opportunity for students to learn the topics since both Spanish and English are integrated during the classes. Teachers considered the importance of using students' first language to reinforce or clarify various topics.

It was evidenced that participants were in accordance in the sense that students need to be tested to validate their improvement during this process. That is to say, teachers perceived tests as a useful and necessary tool to verify if the implementation is giving positive results.

As evidenced, students reacted positively to the implementation since they felt familiar with the topics and there was acceptance in terms of methodology. The fact that younger students reacted positively to the methodology and they considered it natural is attributed to the process they have been in through years. Besides, learners who were exposed to the process took advantage of it and they were proving of progress in such a way that teachers realized the indispensability of the project. In addition, teachers expressed that the process must continue and improve in order to reinforce and complement the educational system of Colombia.

Regarding the data collection, implementing bilingual education in state schools is something possible that becomes positive for both teachers and students; however, there are several aspects to improve. From the beginning to the end of the project, teachers were instructed in order to conduct CLIL classes successfully, but some negative aspects were encountered during the process. Researchers want to recognize teachers' willingness to implement the project although they lacked of proficiency in the foreign language. The content teachers who have been guiding their subjects for years using first their language had to change the methodology in order to do it using the foreign language. Teachers did not desist on their goal of implementing English through content subjects such as natural sciences and mathematics, but it was difficult for them as most of the time they had to face negative reactions and attitudes from students. As evidenced during the study, students who have been part of the project mostly belonged to underprivileged areas, so for some of them, speaking a second language is not a priority and they showed apathy towards including English in their lives, also they did not feel motivated to learn either by itself or

through other subjects. Thus, in order to improve students' motivation regarding this implementation, it is necessary to incorporate more resources such as textbooks, technological aids, and more hours of English exposure. In this way, teachers will feel more comfortable while teaching and the students will receive better input.

8. LIMITATIONS

During the development of the current research study, which was conducted in a state school of Pereira implementing CLIL as a dynamic bilingual education model from kindergarten to eight grades; researchers found out that one of the aspects that restricted the project was the lack of resources due to the fact that as mentor teachers mentioned they did not have enough technological aids, guides to follow, and workbooks. This happened to be a challenge because in many cases mentor teachers could not achieve the aim of the classes, which subsequently lowered students' interest and motivation in regards to the process. Besides, mentor teachers expressed that they would like to implement dynamic and innovative tasks in order to improve their CLIL classes, for example using technology to portray images, flashcards, videos, and songs but as the classrooms lack of TICs they felt restricted.

Another aspect which was rather a flaw was teachers' negative attitudes towards the project. As mentor teachers' worked for the school, they had to work hard not only to conduct their classes but they had to be involved in several additional activities. For instance, they had to keep record of students' behavior, take responsibility of the group they were in charge, attend cultural events, be part of the Professional Development course, and other activities at the same time. These additional assignments were not optional for them and it was something they were not paid for, so they were quite busy and most of the time stressed out. Also, as they were assigned to be part of the CHANGE project, they had to handle extra work, so they were full of work, they did not have free time, and they had the same wage. As a matter of fact, they were enrolled in this kind of project as part of their duties, not because they wanted to but because they had to. Therefore, their performance

and willingness to work in the project was not the best all the times even though they expressed that the project has several positive impacts in the institution. For instance, in one occasion, when researchers organized meetings to discuss the topics of each grade in order to design mock tests and final tests and asked if they wanted to participate in the interviews, they seemed reluctant in view of the fact that by contributing they would have less free time.

Another limitation had to do with students' commitment and motivation towards the assessment process. In the mock tests, where all students were involved, they asked why they were being tested and if tests' results could affect them. Then, in the final tests, where sampling of students took place, they asked why they were chosen; some of them said that they did not want to be tested, and if they accepted, they were going to be exonerated from other subject and activities. Similarly, researchers could observe negative perceptions from participants when they were asked to work in English. When in-service teachers were asked to do any activity of the CHANGE project, most of them asked if they had to do it in English, for example when conducting the interviews on their perceptions, they asked if they had to answer in English before saying if they were going to participate or not. In addition, when students were being tested, they asked if researchers could give the instructions in Spanish and even they asked if they could answer the tests in their mother tongue.

On the whole, in grounds of the fact that the CHANGE project is such an innovating type of program, particularly in state schools, researchers could evidence that it was still a demanding concept to accept for some in-service teachers who had been used to

traditional language instruction. Also, the current project aimed at breaking the paradigm by introducing an entirely different model to follow and using English as a bridge to teach various concepts. Besides, by using different approaches, methodologies, and techniques in order to accomplish different aims it was possible to work from the four skills in all classes. This is a remarkable aspect and it should be highlighted inasmuch as it allowed the participants to improve both English learning through content and the traditional proceedings in this public school which in turn provided content and language teachers new ways of conducting their classes. Thus, some teachers had to leave behind their preconceived ideas of what a language classroom should look like and adapt themselves to the new methodologies such as the ones that were implemented throughout this project.

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10. APPENDICES

APPENDIX 1: MOCK TESTS

EXAMEN DE BIOLOGIA-
GRADO TRANSICION
PROYECTO CHANGE

COLEGIOS HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____

1. Escribe el numero que falta:

1 , 2 , _____ , 4 , 5

2. Subtract:



3. Sum:



4. Sum:



5. Escribe el numero que falta:

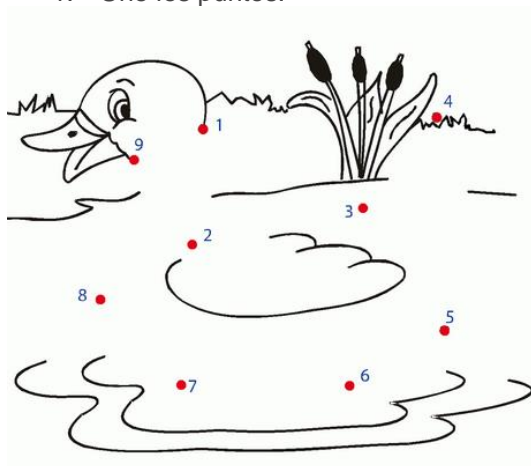
6, 7, _____, 9, 10

EXAMEN DE BIOLOGIA-
GRADO TRANSICION
PROYECTO CHANGE

COLEGIOS HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____
GRADO: _____
FECHA: _____

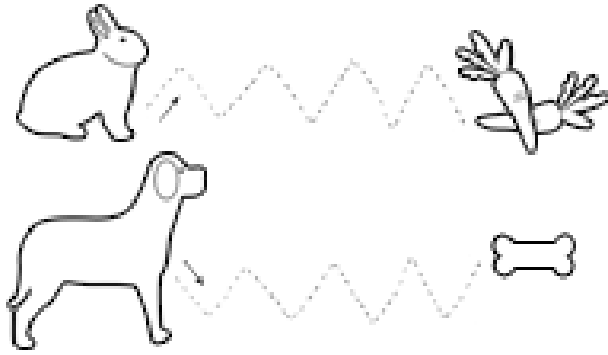
1. Une los puntos:



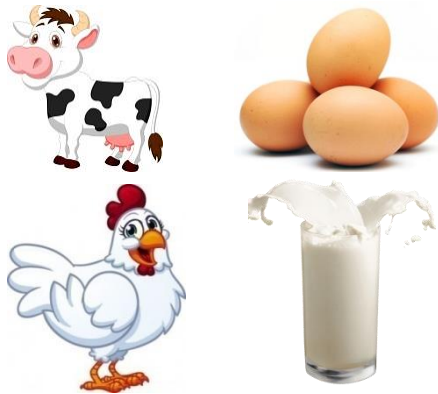
2. Relaciona:



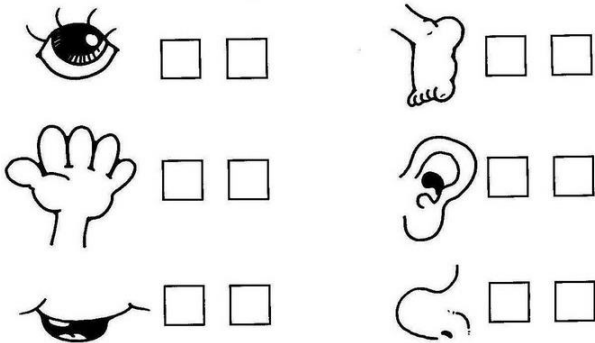
3. Ayuda a los animales a llegar:



4. Relaciona:



5. Colorea uno o dos cuadros según la cantidad que tienes en el cuerpo:



**EXAMEN DE MATEMATICAS-
GRADOS 1° Y 2°
PROYECTO CHANGE**

COLEGIOS HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____



1. CUAL es el resultado.

Sum:



2. Write the number that is missing:

1 , 2 , _____, 4 , 5

3. Escoge la opción adecuada.

12-8 is equal to:

- a. 2
- b. 4
- c. 7

4. Suma y escribe el resultado : Four + five = _____

- A. One
- B. Nine
- C. Six

5. Match:



SHORT



LONG

6. What color is this:



- A. yellow
- B. red
- C. green

7. Cuenta los arboles:



Escribe el resultado en ingles _____

- A. Six
- B. Four
- C. Seven

8. Relaciona:



CIRCLE



SQUARE



TRIANGLE

9. Which is the RED apple?



10. Which is the YELLOW banana:





**EXAMEN DE BIOLOGIA-
GRADOS 1° Y 2°
PROYECTO CHANGE**

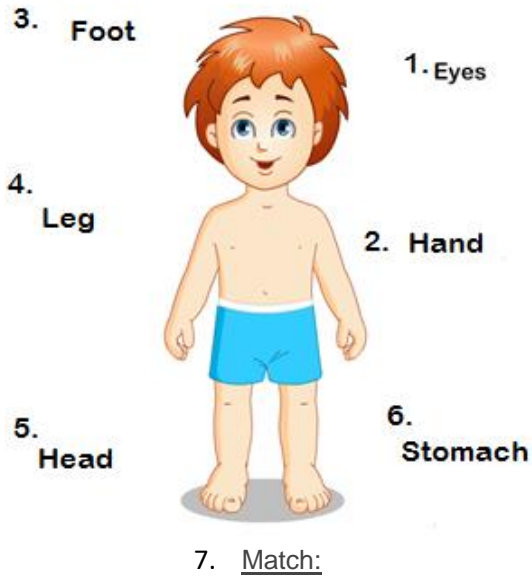
COLEGIOS HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____

Dibuja las líneas para unir las partes del cuerpo:



DOG



RABBIT



CAT

8. What is the animal?

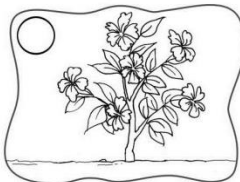
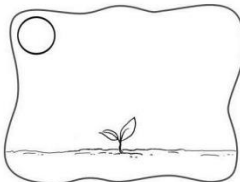
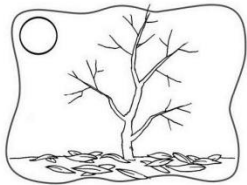
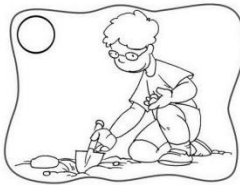
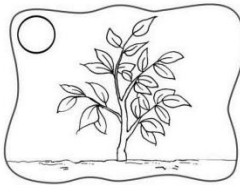


- a. Bird
- b. Horse
- c. Cat

9. Dibuja las líneas para unir las partes de la planta:



10. Write the order of the images



EXAMEN DE CIENCIAS – TERCER GRADO

PROYECTO CHANGE

COLEGIO HUGO ÁNGEL JARAMILLO

NOMBRE COMPLETO _____

FECHA _____

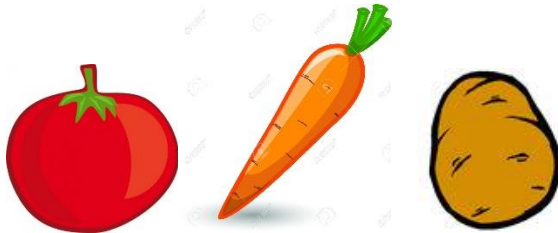
- 1. **Marca la letra que contiene la respuesta correcta.**

Cuál de las siguientes oraciones describe una diferencia entre los animales del grupo A y los animales del grupo B?

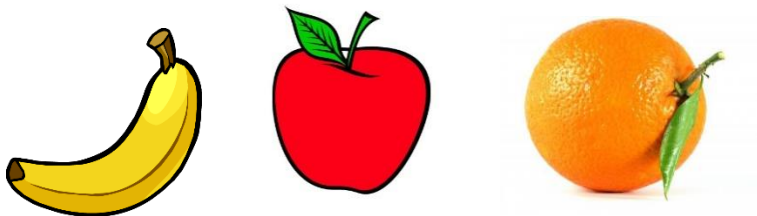


- a. Group A can fly and Group B cannot fly
- b. Group A only eats meat and Group B only eats plants
- c. Group A are animals and Group B are not animals
- d. Group A goes through metamorphosis and Group B does not

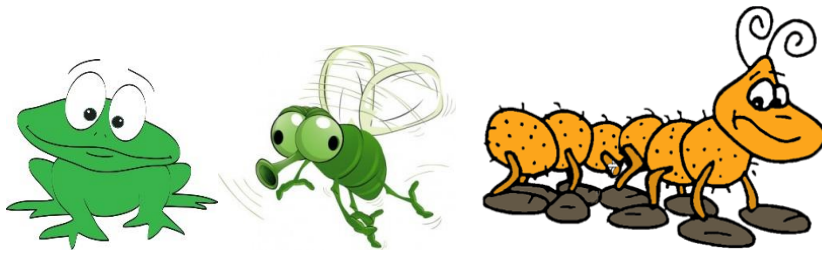
- 2. Write the name of the vegetables:



- 3. Write the names of the fruits:



4. Which of these animals is not invertebrate?



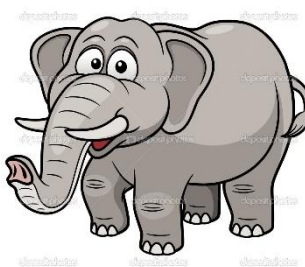
5. which of these animals is not vertebrate?



6. Which of the following groups of invertebrates has wings?

- a. ciempiés- escorpión
- b. garrapata- pulga
- c. abeja- mariposa
- d. hormiga- escarabajo

7. Write the name of the animal



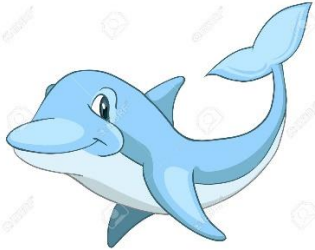
8. Reptils have _____ for respiration

a. pulmones

b. branquias

c. estomas

9. Write the habitat of the following animals







10. Which of the following is a solid?

a. Steam

b. Ice

c. sea wáter

11. El estado de la materia que se caracteriza por presentar volumen y forma definida es:

A. Solid

B. Liquid

C. Gas

Contesta las preguntas del 12 al 14 según el siguiente gráfico:



12. El cambio de estado **SÓLIDO** a **LÍQUIDO** se llama:

- a. Evaporation.
- b. solidification.
- c. Fusion.
- d. None of the above.

13. el cambio de estado gaseoso a liquid se llama:

- a. Condensation.
- b. Cooling.
- c. Freeze.
- d. All of the above.

14. El cambio de estado **SÓLIDO** a **GASEOSO** se llama:

- a. Merger.
- b. Warming.
- c. Vaporization.
- d. Sublimation.

EXAMEN DE MATEMATICAS - TERCER GRADO

PROYECTO CHANGE

COLEGIOS HUGO ÁNGEL JARAMILLO

- **Marca la letra que contiene la respuesta correcta.**

1. Which of the following numbers is **par**?

- a. 86
- b. 53
- c. 67
- d. 81

2. Which sign makes the statement true?

884 ? 884

- a. <
- b. >
- c. =

- **Escribe en los espacios al frente de cada número**

3. Escribe los siguientes números en inglés

- a. 12 _____
- b. 5 _____
- c. 40 _____
- d. 53 _____

4. Which **par** number comes before 37? _____

Which **impar** number comes after 66? _____

5. Which **par** number comes after?

4, 6, 8, _____

6. ¿Cuántos brazos estrellas de mar hay? Contar de cinco en cinco. **Escribe la respuesta en Inglés**



7. ¿Cuál es el polígono que tiene 4 lados?

- a. quadrilateral
- b. triangle
- c. circle

8. ¿Cuál es el polígono con 4 ángulos rectos y 4 lados de la misma longitud?

- a. triangle
- b. square
- c. rectangle

• **Resuelve los siguientes problemas y escribe la respuesta en Inglés**

9. Toda la clase de quinto grado se va al zoológico. Hay 3 autobuses para la excursión. Cada bus tiene la misma cantidad de niños. Si hay 90 niños en grado quinto, ¿cuántos van en cada autobús? _____

10. Si la madre de Jacobo tenía 567 manzanas, se comió 34 luego y regaló 89, ¿con cuantas manzanas quedó? _____

• **Marca la letra que contiene la respuesta correcta.**

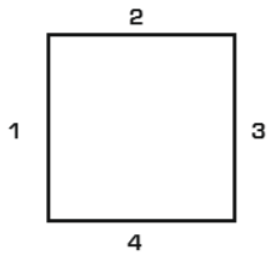
11. If you have the next multiplication:

4	X	2	X	6	=
---	---	---	---	---	---

Se obtiene el mismo resultado que si se tiene:

- a. $2 \times 3 \times 8$
- b. $4 \times 4 \times 1$
- c. $4 \times 2 \times 5$
- d. $6 \times 8 \times 7$

12. Observa los lados 1, 2, 3 y 4 del cuadrado.



¿Cuáles lados son paralelos entre ellos?

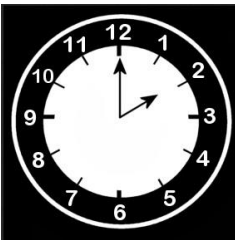
- A. one and two
- B. one and three
- C. two and three
- D. three and four

13. Escribe multiplicaciones para resolver cuántas patas tienen estos animales en total.

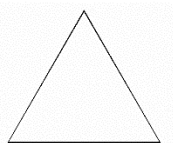
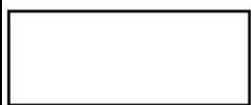
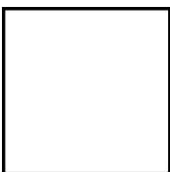
- a. seven horses
- b. five cats
- c. eight dogs

Escribe la respuesta en inglés

14 si ahora mismo son las 2, cuál será la hora dentro de 3 horas? _____



15. Escribe en **Inglés** el nombre de las figuras.





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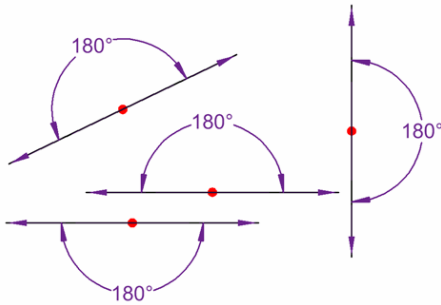
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EXAMEN DE MATEMATICAS CUARTO Y QUINTO GRADO

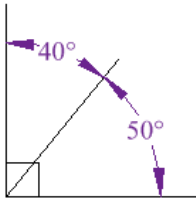
HUGO ANGEL JARAMILLO

- **Escribe en los espacios la respuesta correcta**

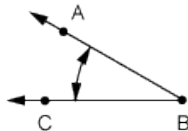
1. An angle that has a measure of exactly 180 degrees is called a(n) _____.



2. An angle that has a measure of exactly 90 degrees is called a(n) _____.



3. Name the angle in the illustration.



4. Escribe una pequeña descripción de los siguientes ángulos. La primera está hecha para ti como un ejemplo.

Right angle - An angle that is exactly 90 degrees.

Acute Angle -



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Obtuse angle -

Strait Angle -

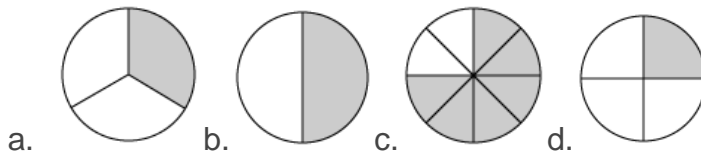
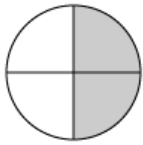
Reflex Angle –



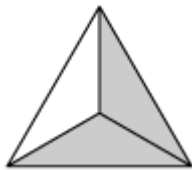
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- **Marca la letra que crees contiene la respuesta correcta**

5. Which of these is an equivalent fraction to the image below?



6. Which fraction is equivalent to the model?



- a. $\frac{1}{3}$
b. $\frac{3}{6}$
c. $\frac{6}{9}$
d. $\frac{9}{12}$

7.Cuál de los siguientes términos determina una figura que está formada por dos líneas de segmento con un punto final común. Marca la letra que crees tiene la respuesta correcta.

- a. Vertex
b. Angle
c. Intersecting lines

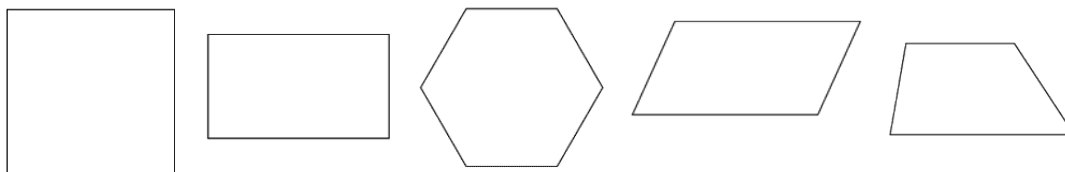


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8. Look at the shapes below. ¿Qué fracción de las figuras tienen cuatro lados?



- a. $\frac{1}{3}$
- b. $\frac{2}{3}$
- c. $\frac{2}{6}$
- d. $\frac{4}{5}$

9. In the expression $7,05$ _____ $7,5$; the sign that is missing is:

- a. \geq
- b. $=$
- c. $<$
- d. $>$

10. Expresa lo siguiente:

Ejemplo: **ten squared:** 10^2 **two cubed:** 2^3

- a. six squared: _____
- b. eight squared: _____
- c. four cubed: _____
- d. five cubed: _____

11. Match with a line the operation with the result

$5890+45$	712
$367+345$	734
$267+467$	593

12. Escribe los siguientes números en inglés



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- a. 12 _____
b.



13. How many starfish arms are there? Count by fives. _____



Resuelve los siguientes problemas y escribe la respuesta en el espacio y en inglés.

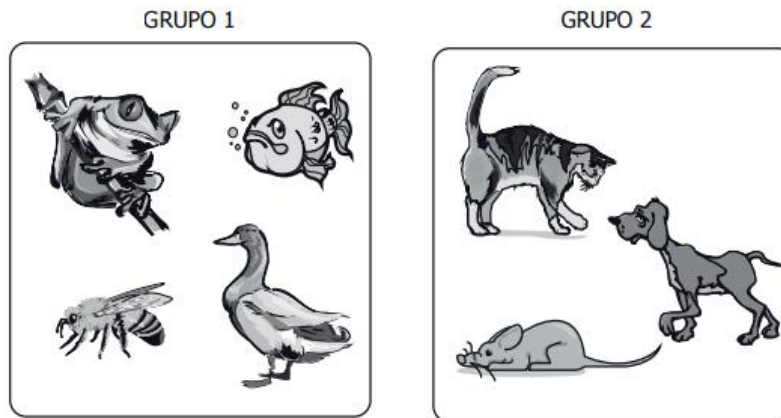
14. Toda la clase de quinto grado se va al zoológico. Hay 3 autobuses para la excursión. Cada bus tiene la misma cantidad de niños. Si hay 90 niños en grado quinto, ¿cuántos van en cada autobús? _____

15. Si la madre de Jacobo tenía 567 manzanas, se comió 34 luego y regaló 89, ¿con cuantas manzanas quedó? _____

**EXAMEN DE CIENCIAS – CUARTO Y QUINTO GRADO
PROYECTO CHANGE**

COLEGIO HUGO ANGEL JARAMILLO

1. Lucas is observing the following animals: frog, mouse, fish, duck, dog, cat, and bee. He classifies all the animals in the following groups:



- **Marca la letra que contiene la respuesta correcta.**

La característica que Lucas utiliza para clasificar los animales en estos dos grupos fue:

- A. los que tienen células y los que no tienen.
- B. los que viven en el agua y los que viven en la tierra.
- C. los que son peligrosos y los que son amigables.
- D. los que se reproducen por huevos y los que son vivíparos.

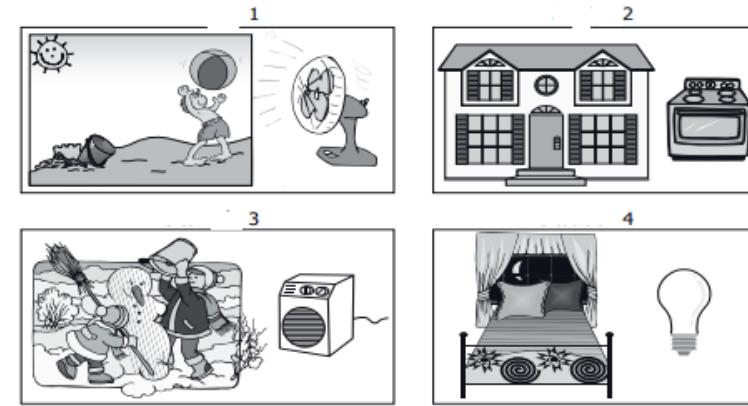
- **Marca la letra que contiene la respuesta correcta**



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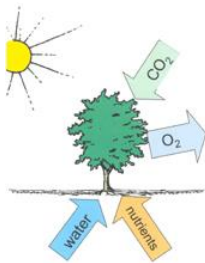
2. Observe the following figures



Las situaciones en las que el clima es un factor importante para el uso de aparatos eléctricos están representados en:

- 1 and 3
- 2 and 4
- 3 and 2
- 4 and 1

• **Mira la imagen y responde la pregunta llenando los espacios**



3. Plants take in _____ and give out _____.

4. To which kingdom of nature bacteria belong to? _____



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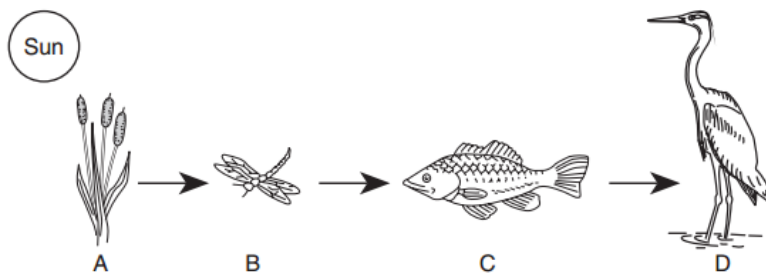
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5.Cuál de los animales tiene alas?

- a. Bird
- b. frog
- c. mouse
- d. rabbit

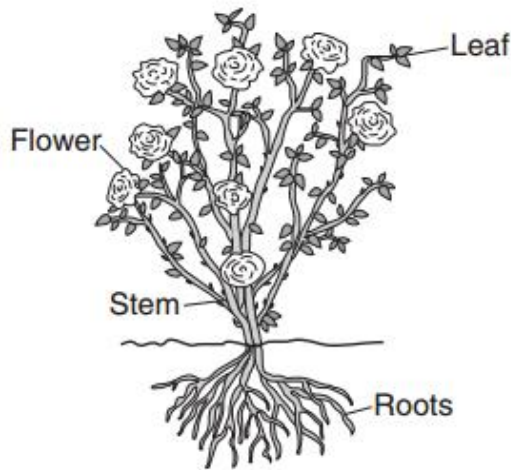
6. Cuatro organismos en la cadena alimentaria están nombrados A, B,C y D.



Which organism in this food chain is predator and prey?

- a. A
- b. B
- c. C
- d. D

7. Cuatro estructuras que ayudan a la planta a sobrevivir, crecer y reproducirse están en la imagen



Which structure takes in water and nutrients from the soil? Write the answer.

• **Marca la letra que contiene la respuesta correcta**

8. Cual tipo de organismo ayuda a devolver los nutrientes de las plantas muertas y de los animales al suelo?
 - a. Producer
 - b. Prey
 - c. Predator
 - d. Decomposer

9. Los seres vivos se clasifican según si tienen huesos o no en:
 - a. carnívoros and herbívoros
 - b. Aquatic and terrestrial
 - c. Domestic and wild
 - d. Invertebrates and vertebrates.

10. Living beings are classified into the following kingdoms:
 - a. Mónera y Protistas.
 - b. Fungí o Reino de los Hongos.
 - c. Vegetal y Animal.
 - d. Todas las anteriores.

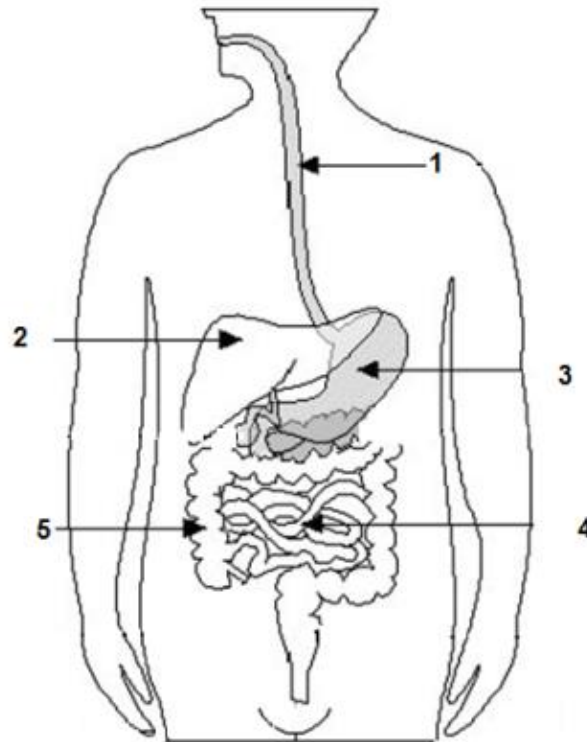


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11. Observa el gráfico del **SISTEMA DIGESTIVO**. Write the corresponding name next to the numbers 1, 2, 3, 4, 5.



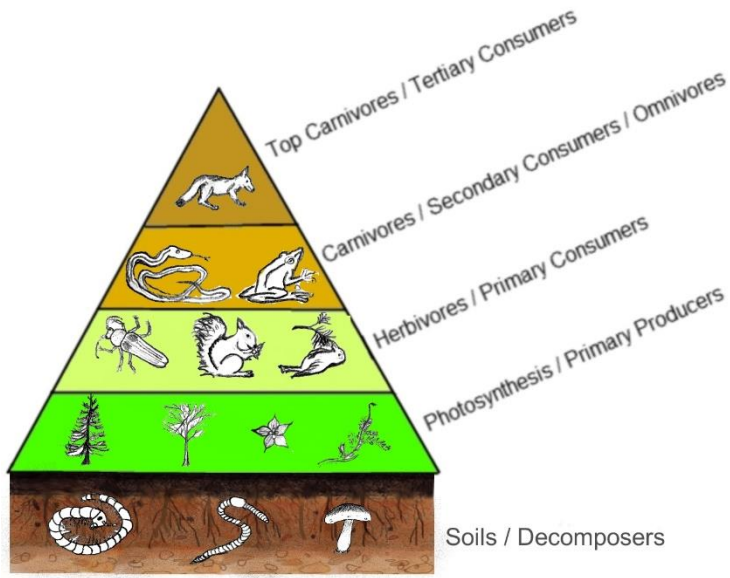
12. La nutrición en los seres vivos se lleva a cabo con la ayuda de los siguientes aparatos:

- a. Digestive and respiratory.
- b. Circulatory and excretory.
- c. All of the above.
- d. None of the above

13. Las proteínas son alimentos que ayudan a la construcción de los músculos y huesos, son ejemplos:

- a. Apple, pear, banana, cherry and lemon.
- b. Tomato, carrot, cucumber and lettuce.
- c. Meat, beans, lentils, eggs and dairy.
- d. Butter, oils, candies and chocolates.

Observa la imagen y responde las preguntas 14 y 15.



14. What is the name of the organism that makes photosynthesis in the food chain? _____

15. ¿Cuáles de los siguientes organismos son consumidores de primer orden?

- a. The trees- the flowers- the plants.
- b. The oruga- the Snail- the Mouse- the cricket- the bird.
- c. The eagle – the hawk
- d. the Hyenas-the vultures- the tiger-the lion- the cocodriles.



EXAMEN DE MATEMÁTICAS-GRADOS 6° Y 7°

PROYECTO CHANGE

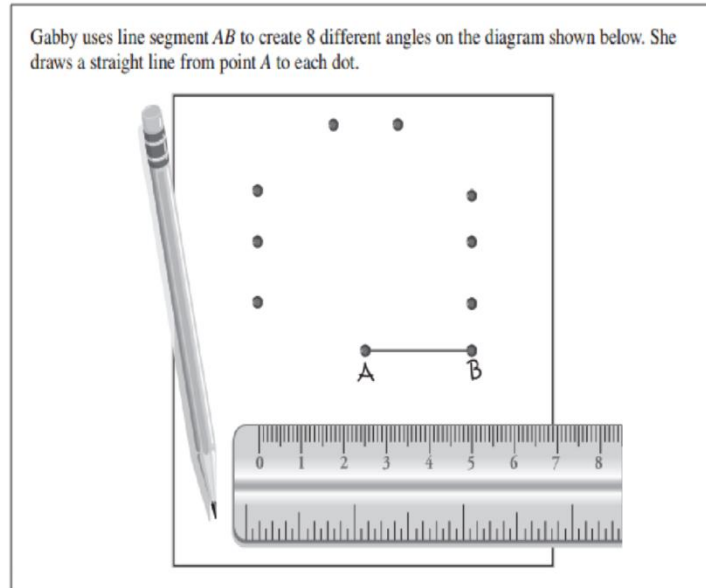
INSTITUCION EDUCATIVA HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____

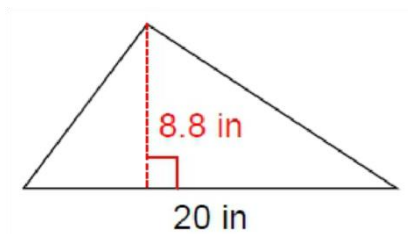
1. Escriba < o > entre los números
 - a. 0 -3
 - b. -2 -5
 - c. -4 2
 - d. 3 -1
2. Find the logarithms and write the result in the front
 - Logaritmo en base tres de 81
 - Logaritmo en base 4 de 256
 - Logaritmo en base 2 de 32
 - Logaritmo en base 5 de 625
3. A family has consumed on a summer day: Two bottles of half liter of water, 4 liter cans of juice and 5 lemonade liters.
 - How many liters of liquid have drunk? Express the result to a mixed number.
4. From a piece of cloth measuring 48 m Maria cuts $\frac{3}{4}$ How many meters measure the remaining piece?
5. Use la siguiente información para responder la pregunta.



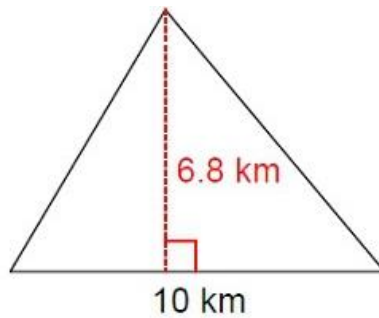
How many of the angles that Gabby draws above are between 45° and 135° ? a. 3

- b. 4
- c. 5
- d. 6

6. What is the area of this triangle? *Recuerda que la fórmula para hallar el área es: $A = \text{Base} \times \text{Altura}$*




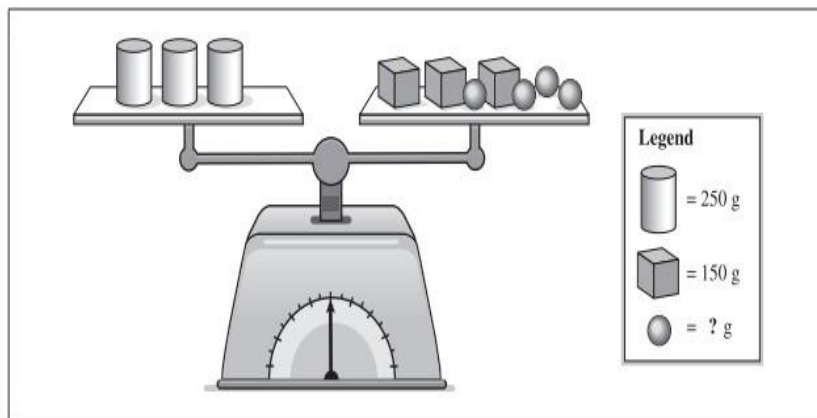
7. Find the area of the following triangle



8. Look at the following numbers and find their multiples.

- 111: □ 125 □ 12:
- 15:
- 13:

9. Which is the mass of one?  ?



- a. 50 g
- b. 75g
- c. 150g
- d. 300g

10. Pablo creates the following table to record the number of pages he will read over 5 days.



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Day number (d)	Number of pages read each day ($2d + 1$)
1	
2	
3	
4	
5	
22	

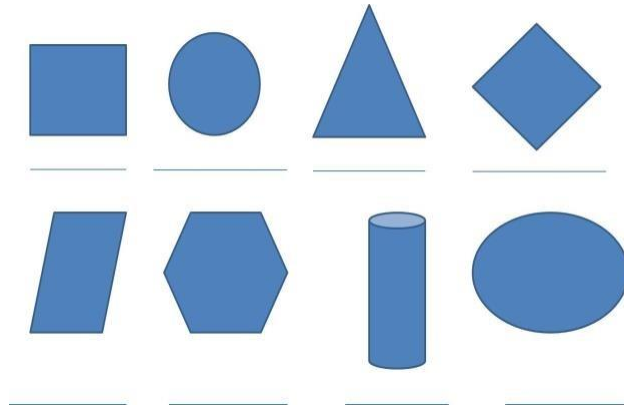
How many more pages will Pablo read on day 5 than on day 22?

- $7 - 3 \times 2 = \mathbf{W}$
- $3 \times (2 - 1) = \mathbf{X}$
- $12 \div (3 \times 2) = \mathbf{Y}$
- $6 + 2 \div 2 = \mathbf{Z}$

11. What is the sum of the values of **W**, **X**, **Y**, and **Z**?

- a.13
- b.17
- c.21
- d.25

12. Identifique las siguientes figuras geométricas y escriba el nombre correspondiente en inglés, en el espacio.



13. A machine fills 150 bottles of water every 8 minutes. How many minutes it takes this machine to fill 675 bottles? a. 25

b. 36

c. 40

d. 32

14. Juan tenía \$ 8.500 pesos. Gastó \$ 1.250 en los dulces y dio a sus dos amigos \$ 1.200 a cada uno. ¿Cuánto dinero le queda?

15. Los uniformes para que los jugadores de fútbol que representan al colegio en los intercolegiados costaron \$253 000. El colegio aportó \$121 000.

Siendo 11 jugadores, ¿Cuánto debe aportar cada jugador?



EXAMEN DE CIENCIAS-GRADO 6°

PROYECTO CHANGE

INSTITUCION EDUCATIVA HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____

1. Read the following text and answer questions from 1 to 7.

THE WATER CYCLE

Water covers most of our planet. It can be found in oceans, lakes, and ponds, and in the ground itself. The cycle of water from **liquid** to **vapor** to **solid** is called **the water cycle**. The water cycle is an exciting and continuous process, with no beginning or end. The water cycle is the movement of water in the environment by **evaporation**, **condensation**, and **precipitation**.

The warm sun causes liquid water to *evaporate* (to change from a liquid into a gas or vapor) and rise up into the sky. The water vapors that are formed cool during evaporation. These cooled water vapors form clouds in the sky. The transformation of the vapor into clouds (that is, from a gas into a liquid) is *condensation*. Clouds can be a mass of water droplets and/or ice particles.



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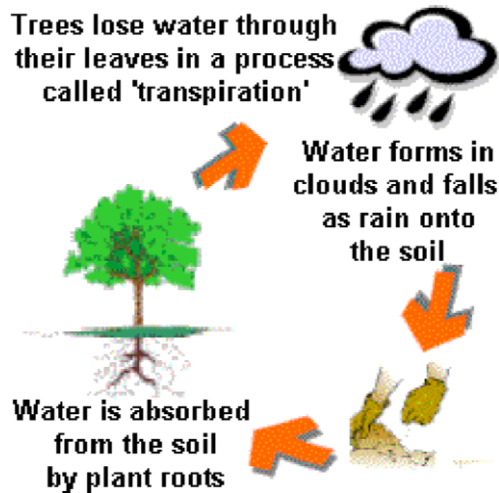
When the clouds get heavy enough, the water falls back to the ground in the form of rain, snow, or hail. This is *precipitation*.



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*Plants in our environment contain water in a liquid form. They release water vapor into the atmosphere. When plants do this it is called transpiration. **Transpiration** is a kind of evaporation*

The Water Cycle



Taken from: abcteach.com

- A. ¿Cuáles son los tres estados del agua mencionados en el texto?
- a. Líquido, vapor, sólido
 - b. Congelado, vapor, sólido
 - c. Líquido, gas, granizo
 - d. Agua, gas, sólido
- B. ¿Cuál de las siguientes definiciones, es la mejor para evaporación?



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- a. Es el proceso de desaparición.
 - b. Es el proceso mágico de convertir el agua en vapor.
 - c. Es el proceso de cambio de líquido a vapor.
 - d. Es el proceso de pasar de un lugar a otro.
- C. ¿Cuál de las siguientes es la mejor definición para condensación?
- a. Es el proceso de mover las cosas muy cerca una de otra.
 - b. Es el proceso de cambio de vapor a líquido.
 - c. Es el proceso de cambio de líquido a vapor.
 - d. Es el proceso de cambio de vapor a sólido.
- D. ¿Cuál de los siguientes es el mejor ejemplo de precipitación?
- a. Lluvia
 - b. Nubes
 - c. Evaporación
 - d. Hielo
- E. ¿Qué causa la evaporación?
- a. El calor del sol y la fotosíntesis



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- b. La transpiración y la precipitación.
 - c. La lluvia y la nieve.
 - d. El sol y la transpiración.
- F. ¿Qué son las nubes?
 - a. Masas de agua condensada formadas por los vapores de agua enfriada
 - b. Masas de vapores condensados.
 - c. Masas de bolas de algodón.
 - d. Masas de agua evaporada.
- G. What causes precipitation?
 - a. Evaporation
 - b. The weight of the clouds
 - c. The hot sun
 - d. The plant transpiration
- 2. How is called the basic unit of all living things?
- 3. [What is an ecosystem?](#)



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4. What are the kingdoms of nature?
 - a. Protist, Fungi, Plants, Monerans, Animals
 - b. Protist, Vegetables, Algae, Animals.
 - c. Animals, Plants, Protist.
 - d. Monerans, Protist, Bacteria.
5. Which kingdom includes vertebrates and invertebrates?
6. ¿En qué galaxia se encuentra nuestro sistema solar?
 - a. Orion's Bell
 - b. Andromeda
 - c. Milky way
 - d. Whirlpool
7. El estudio del sistema solar es llamado:
 - a. Ecology
 - b. Astronomy
 - c. Planetology
 - d. Astrology
8. Mention the 9 planets in its correct order.
9. The process through plants get their food is known as:
 - a. Evaporation



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- b. Condensation
- c. Photosynthesis
- d. None of the above

10. [When an animal is eaten by a predator, we called](#) that _____

11. [When a ball hits the ground it bounces. This is an example of](#)

- a. Newton's First Law
- b. Gravitation al Law
- c. Newton's Second Law
- d. Newton's Third Law

12. Name the smallest unit of an element

13. Cuáles son los principales procesos de división celular?

- a. Mitosis and Interphase
- b. Telophase and Mitosis
- c. Mitosis and Meiosis
- d. Interphase and Prophase

14. Nombre la materia gelatinosa que se encuentra fuera del núcleo de una célula.



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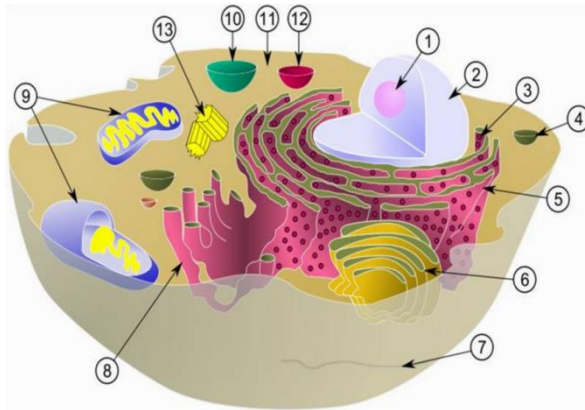
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15. Look at the following image; write in each of the listed space the corresponding name.

Citoplasma - Protoplasma - Retículo endoplásmico - Mitocondrias - Ribosomas -

Lisosomas - Aparato de golgi - Centriolos - Plastos - Cloroplastos - Vacuolas –

Núcleo - Nucleolos



EXAMEN DE CIENCIAS- GRADOS 7°

PROYECTO CHANGE

INSTITUCIÓN EDUCATIVA HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____

1. Read the following statements and put a T if you consider they are TRUE and an F if you consider they are FALSE.

- A group of similar cells that work together to perform a specific function is called organ



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- ☐ Animals that eat other animals are called herbivores
- ☐ Scavengers are animals that eat both plants and other animals.
- ☐ Organisms that get energy by breaking down the remains of dead organisms are called decomposers.
- ☐ The closest object to Earth is the Sun.
- [An ecosystem is a community of living organisms and their physical environment.](#)
- [Biosphere is the study of the relationship of plants and animals with their physical environment.](#)

2. Mention the states of matter.

3. Match the following concepts in the left with their definition in the right

• DNA	It refers to the basic physical and functional unit of heredity
• RNA	It is the hereditary material in humans and almost all other organisms
• Chromosomes	This is the "internally coded, inheritable information" carried by all living organisms.
• Gen	It is a polymeric molecule implicated in various biological roles in coding, decoding, regulation, and expression of genes
• Genotype	Anything that is part of the observable structure, function or behavior of a living organism.
• Phenotype	They are basic building blocks of life where the entire genome of an organism is essentially organized and stored in the form of DNA

4. How many pairs of chromosomes have human body cells?



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a. 23

b. 56

c. 46

d. 18



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5. Organs in the body work together to form .

a. Tissue

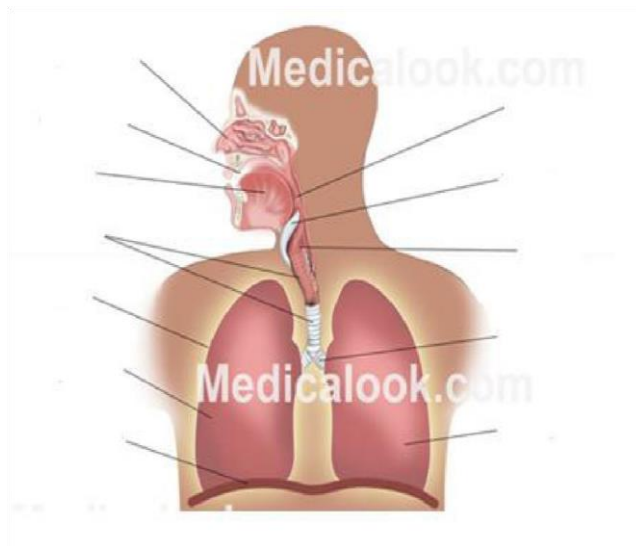
b. Systems

c. Energy

d. Organism

6. Look at the picture of the Respiratory System and put its parts in the correct place.

Nasal Cavity- Pharynx- Left Lung- Diaphragm- Pleura- Bronchus- Tongue- Oral Cavity- Trachea-
Epiglottis- Right Lung- Larynx





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7. Cuál es el sistema que se encarga de permitirnos el movimiento?
8. The Skeletal, Muscular, and Nervous Systems are part of the system:
 - a. Respiratory
 - b. Musculoskeletal
 - c. Excretory
 - d. Digestive
9. El sistema circulatorio también es conocido como:
 - a. Nervous System
 - b. Blood Vessels
 - c. Cardiovascular System
 - d. Vena Carve
10. Which of the following is NOT part of the Circulatory System?
 - a. Lungs
 - b. Arteries
 - c. Veins
 - d. Heart
11. Son las encargadas de llevar la sangre hacia el corazón y luego bombearla fuera de él.
12. How many bones has a human being?



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13. This bone connects the base of the spine with legs

- a. Sacrum
- b. Tarsal
- c. Pelvis
- d. Sternum

14. What is the longest bone in the human body?

15. Otro nombre para la columna vertebral es:

- a. Fibula
- b. Metacarpal
- c. Ulna
- d. Vertebra

EXAMEN DE MATEMÁTICAS-GRADO 8°

PROYECTO CHANGE

INSTITUCIÓN EDUCATIVA HUGO ANGEL JARAMILLO

NOMBRE COMPLETO _____

GRADO: _____

FECHA: _____

1. Complete the following chart by putting an X in the appropriate column.



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Real Number	Whole Number	Natural Number
$\sqrt{121}$		
$1.\dot{2}$		
π		
$\frac{2}{3}$		
0,13123...		

2. Evaluate the following expressions involving mixed numbers.

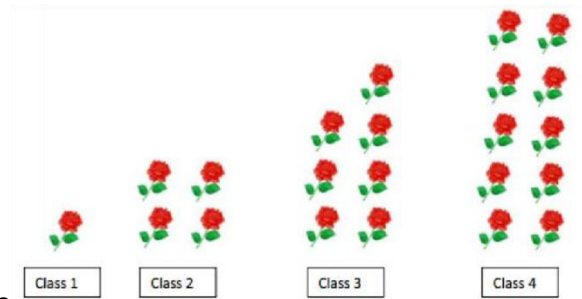
A. $3\frac{3}{4} + 6\frac{1}{7}$

B. $(1\frac{3}{5}) * (3\frac{1}{3}) - 2\frac{1}{2}$

C. $(5\frac{2}{3}) / (4\frac{1}{5})$

D. $(3\frac{4}{7} - 1\frac{1}{2}) / (2\frac{3}{8} + 2\frac{1}{4})$

3. Look at the pattern below and fill in the missing boxes of the table. How many roses will be in



The class 10?

CLASS	1	2	3	4	5	6	7	8	9	10
NUMBER OF ROSES	1	4								

4. The wavelength of light is 0.000065 meters. What is this value in scientific notation? a. 6.5×10^{-4}

b. 0.65×10^{-6}

c. 6.5×10^{-3}

d. 6.5×10^{-5}

5. Descomponer en factores sacando factor común y hallar las raíces a. $x^3 + x^2$

b. $2x^4 + 4x^2$

c. $x^2 - ax - bx + ab$

6. A partir de 2000, un equipo deportivo aumentó el precio de la entrada por una cantidad constante cada año hasta el 2010.

- A ticket cost \$28.000 in 2005

- A ticket cost \$35.500 in 2008

- How much did a ticket cost in 2000?

7. Solve for x the following equations.



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a. $-x = 6$

b. $2x - 8 = -x + 4$

c. $2x + 1/2 = 2/3$

d. $x/3 + 2 = 5$

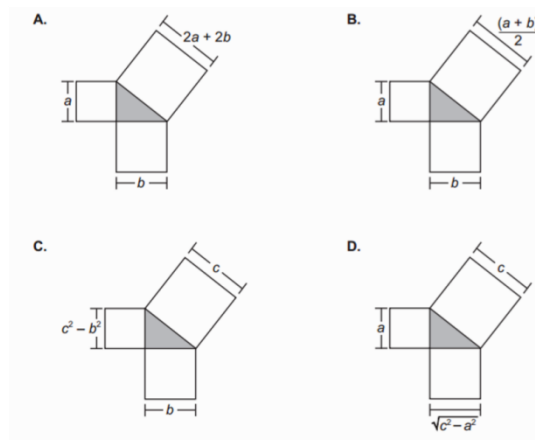
8. Evaluate for the given values of **x** and **y**.

a. $x^2 - y^2$, for **x** = 4 and **y** = 5

b. $|4x - 2y|$, for **x** = -2 and **y** = 3

c. $3x^3 - 4y^4$, for **x** = -1 and **y** = -2

9. Juan is creating a diagram to prove that a certain triangle is a right triangle. In his diagram he uses three white quadrilaterals that are squares. Which diagram could be the one that Juan is creating?



10. En una hoja de papel rectangular de 12 pulgadas de ancho por 16 de largo, se trazó una línea recta en forma diagonal. ¿Cuál es la longitud de la línea?

Pulgada: 2,54 cm

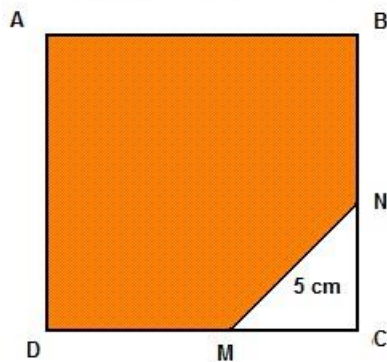


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- a. $\sqrt{28}$ inches
- b. $\sqrt{112}$ inches
- c. 20 inches
- d. 28 inches

11. The size of the perimeter of the square ABCD is equal to 100 cm. The length of the segment MN is equal to 5 cm and the triangle MNC is isosceles. Find the area of the pentagon ABNMD.



12. Realice los siguientes ejercicios y resuelva con la formula correcta.

a. $x^3y^6 - 64$

b. $x^3 - 8$

13. Factorice los polinomios en los que se puede identificar con el desarrollo del producto

a. $x^2 + 2x - 15$

b. $y^2 - 2y - 15$

c. $x^2 - 4x + 3$

d. $z^2 + 2z - 4$



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14. Solve the following exercises of squared binomials

- a. $(2 + x)^2$
- b. $(3a - 5b)^2$
- c. $(2a - 3b)^2$
- d. $(8a2b + 7ab6y^2)^2$

15. Pablo is taller than Sara but shorter than both Lina and Tania. Lina is shorter than Tania.

Natalia is shorter than Sara. Who is the shortest?

EXAMEN DE CIENCIAS - GRADO 8°

PROYECTO CHANGE

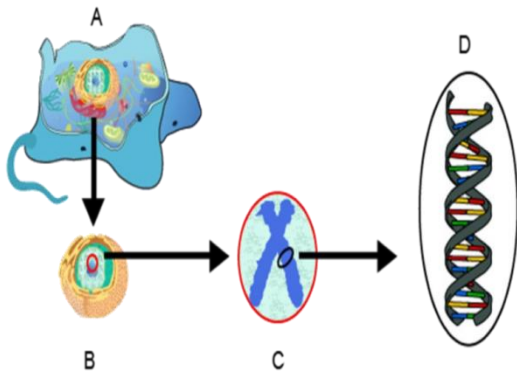
INSTITUCION EDUCATIVA HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____

1. Identifique y nombre cada uno de los siguientes elementos.



2. How is called the process where cells obtain energy from sugar molecules?

- a. Food chains
- b. Nitrogen cycle
- c. Cellular respiration
- d. Biotic

3. Both plants and animals use _____ and give off _____ during respiration.



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4. Which one of the element is NOT used in either cellular respiration or photosynthesis?
- Carbon
 - Oxygen
 - Nitrogen
 - Hydrogen
5. Which of the following is the appropriate formula for the photosynthesis process?
- $+O+ \quad CH+$
 - $6C+O \quad +$
 - $6 C+O \quad +$
 - O
6. What is the process by which cells obtain energy from food?
7. Name the most appropriate cycle which includes sunlight, photosynthesis and respiration.
8. Read the following statements and determine if they are true (T) or false (F).
- Note:** If the statement is false, change it to become true.
- The study of heredity is called biology.
 - Mars is the second planet away from the sun.
 - The heart contracts on its own about 200.000 time a day.



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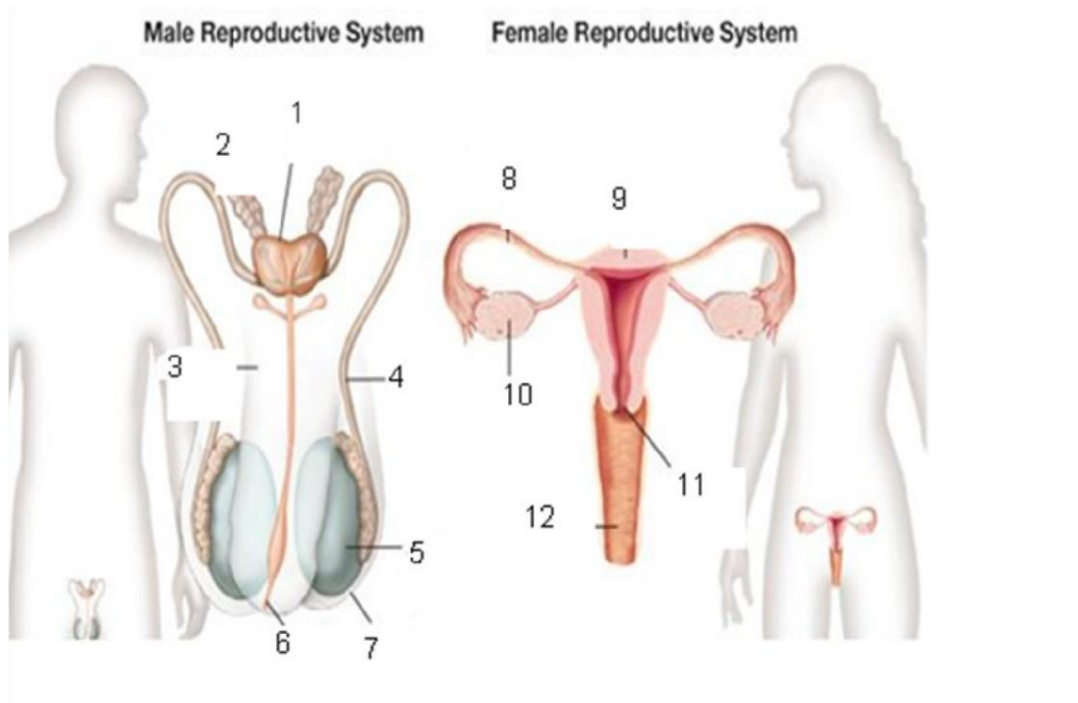


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- A gene or trait that will always show itself is recessive.
- Screw is a machine used to hold two objects together.
- The tendency of an object to resist change in motion is called gravity.
- A gene or trait that will be hidden when that dominate trait is present is dominant.

9. Look at the picture of the Reproductive System and put its parts in the correct place.

Seminal vesicle- Urethra –Cervix- Ovary- Vas deferens- Uterus- Prostate gland- Vagina- Testis- Scrotum- Fallopian tube- Penis



10. The male and female sex cells are known as:

- Vum and Sperm
- Ovary and Uterus



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- c. Sperm and Ovary
- d. Scrotum and Ovary



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11. Cuáles son las hormonas femeninas y masculinas?

12. Which one of the following statements about cellular respiration is TRUE?

- a. Cellular respiration converts energy directly from the sun into energy stored in chemical bonds
- b. Cellular respiration cannot occur without sunlight
- c. Cellular respiration occurs in plants and animal cells

13. En sus propias palabras defina los siguientes términos.

- Mutualism:
- Commensalism:
- Symbiosis:
- Parasitism:

14. Which are the biogeochemical cycles?

- a. The hydrologic cycle, the nitrogen cycle, the phosphorus cycle and the carbon cycle
- b. The phosphorus and the carbon cycles
- c. The hydrological and the nitrogen cycles.
- d. None of the above



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15. Ecology is the scientific study of the distributions, abundance and relations of organisms and their interactions with the environment. Ecology includes the study of plant and animal populations, plant and animal communities and ecosystems.

□ Answer the following questions about ecology

- a. What is an ecosystem? Mention 4 types of ecosystem
- b. What are biotic and abiotic factors?
- c. Defina habitat y nicho ecológico.



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APPENDIX 2: FINAL TESTS



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EXAMEN DE MATEMATICAS- GRADO TRANSICION PROYECTO CHANGE

COLEGIO HUGO ANGEL JARAMILLO

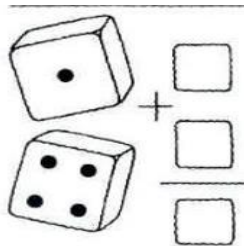
1. Que números faltan?

1 , 2 , _____ , 4 , _____

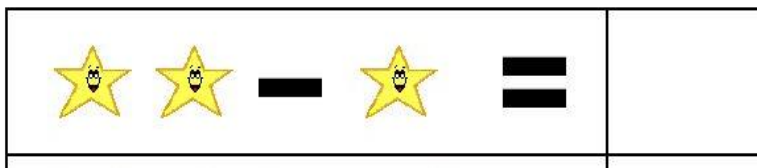
2.How many apples are here:



3. Sum:



4. Substract:



5. Cuenta los elementos y di el resultado en ingles:



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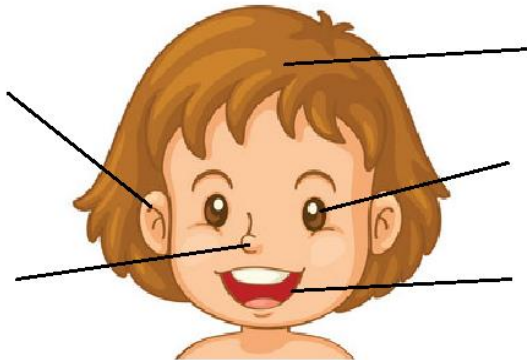


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**EXAMEN DE BIOLOGIA-
GRADO TRANSICION
PROYECTO CHANGE
COLEGIO HUGO ANGEL JARAMILLO**

1. Ubica las siguientes partes de la cara:



-Eyes

-Nose

-Ears

-Hair

-Mouth



2. Selecciona cual es Dog y cual es Cat:

3. Match the name of the animal to the corresponding picture:



-COW

-RABBIT

-HORSE

-PIG

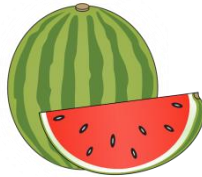
4. Which one is the apple?



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- A. Red
- B. Blue
- C. Yellow

5. What color is the sun:

EXAMEN DE MATEMATICAS-
GRADO 1°
PROYECTO CHANGE
COLEGIO HUGO ANGEL JARAMILLO

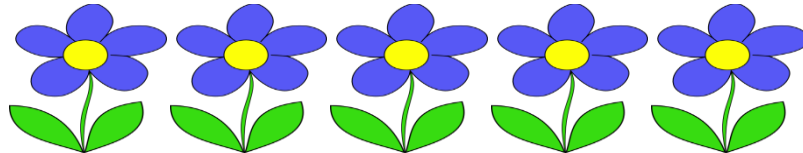
1. Escoge el mes que falta.

Monday → Tuesday → _____

- A. Thursday
- B. Wednesday
- C. Friday



2. Count the flowers:



Escoje el resultado en ingles _____

- D. Six
- E. Five
- F. Four

3. What color is this:

- A. yellow
- B. red
- C. green

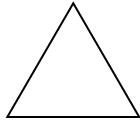
4. Relaciona:



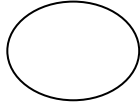
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CIRCLE

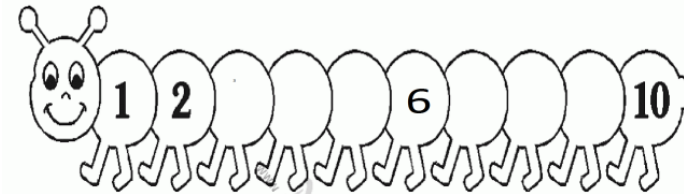


SQUARE



TRIANGLE

5. Continúa la secuencia en ingles:



6. Make the sum and tell the result in English:

$$\begin{array}{r} 4 \\ + 8 \\ \hline \end{array}$$

7. Which are the colors of the Colombian Flag?



8. Make the subtraction and tell the answer in English:

$$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$$

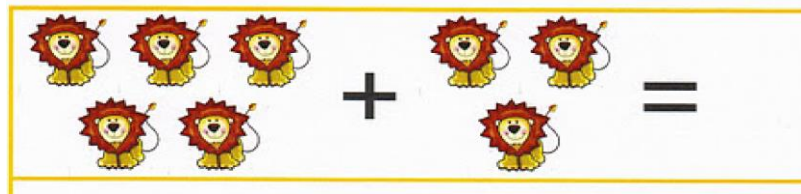
9. Make the sum:



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10. Señala el objeto que esta "UNDER" la mesa:



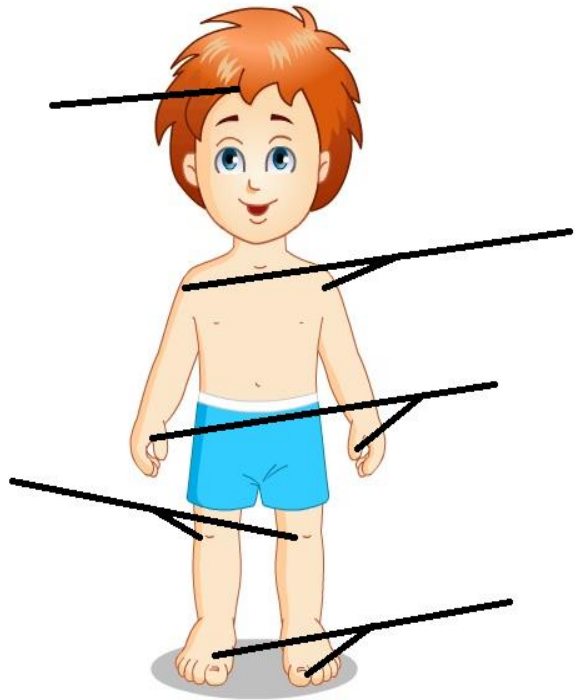


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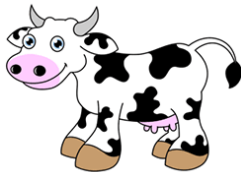
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EXAMEN DE BIOLOGIA-
GRADO 1° -PROYECTO CHANGE
COLEGIO HUGO ANGEL JARAMILLO



- | | |
|--------------|--------------|
| 1. HANDS | 4. SHOULDERS |
| 2. TOES/FEET | 5. HEAD |
| 3. KNEES | |

6.What is the name of this animal?



- d. Cow
- e. Horse
- f. Cat

7.Seleccina:

- | | |
|-------|--------|
| -Eyes | -Mouth |
| -Nose | -Ears |



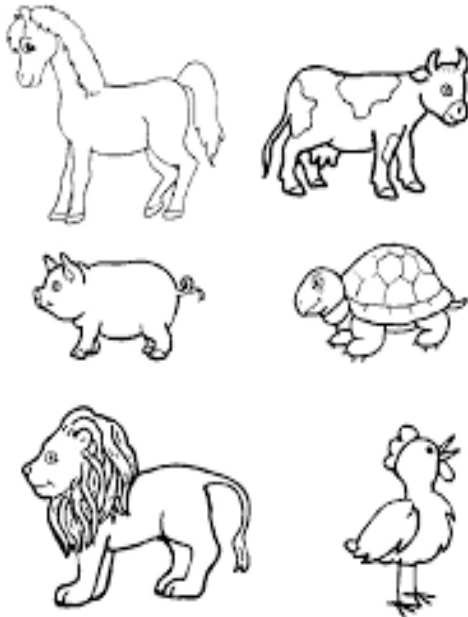
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8. What animal does not live on the farm?



-horse
-cow
-pig
-turtle
-lion
-chicken

9. SELECCIONA:

- CHICKEN - CAT - HORSE





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10. This is:

- A. Fire
- B. Water
- C. Wind

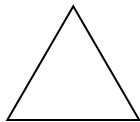
EXAMEN DE MATEMATICAS

GRADO 2°- PROYECTO CHANGE
COLEGIO HUGO ANGEL JARAMILLO

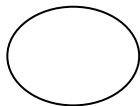
1. Escoge el día de la semana que falta:

Monday → Tuesday → _____
D. Thursday
E. Wednesday
F. Friday

2. Relaciona:



CIRCLE

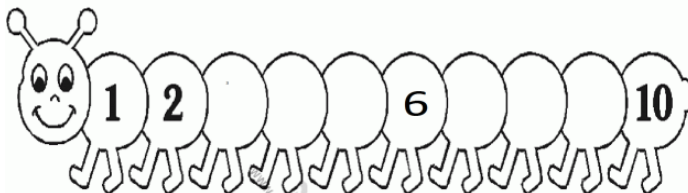


SQUARE



TRIANGLE

3. Continúa la secuencia en ingles:



4. Make the sum and tell the result in English:



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$$\begin{array}{r} 9 \\ + 8 \\ \hline \end{array}$$

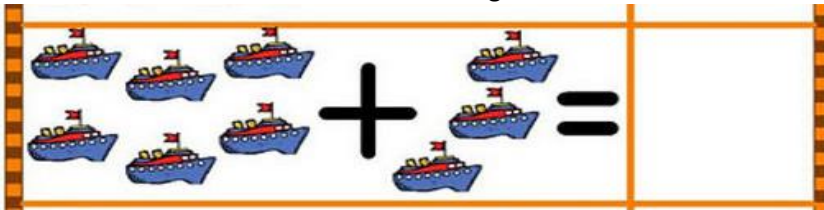
5. Which are the colors of the Colombian Flag?



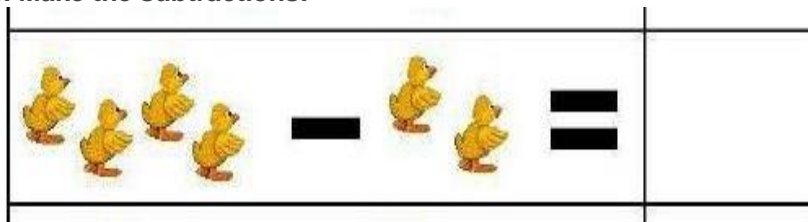
6. Make the subtraction and tell the answer in English:

$$\begin{array}{r} 12 \\ - 5 \\ \hline \end{array}$$

7. Make the sums and tell the result in English:



8. Make the subtractions:



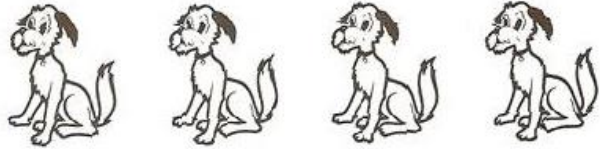
9. Margarita compro FIVE ramos con TWO rosas en cada ramo. ¿Cuántas rosas compro en total?

- A. SIX
- B. EIGHT
- C. TWO



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10. Cuantas patas hay entre todos los perros?

	FOUR x TWO =
---	-----------------------



**EXAMEN DE BIOLOGIA-
GRADO 2°- PROYECTO CHANGE
COLEGIO HUGO ANGEL JARAMILLO**

Selecciona las partes del cuerpo

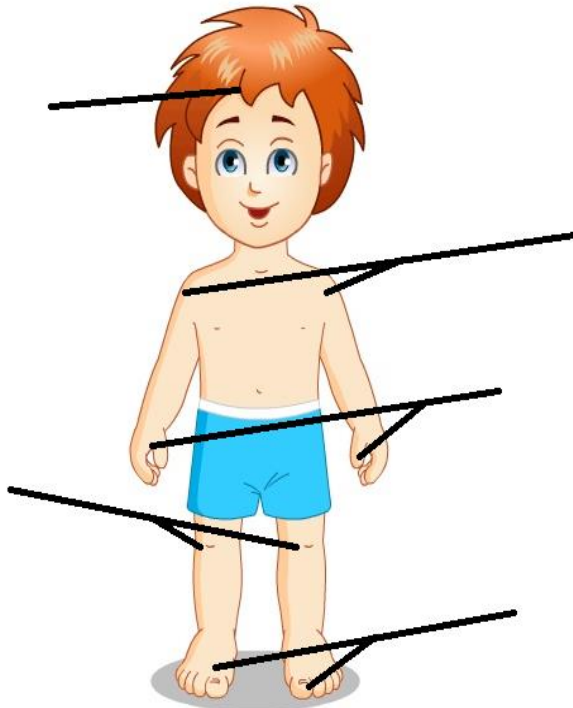
- | | |
|--------------|--------------|
| 1. HANDS | 4. SHOULDERS |
| 2. TOES/FEET | 5. HEAD |
| 3. KNEES | |



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6. Señala el elemento que no es "LIQUID":



7. Señala el elemento que no es "SOLID":



8. Los seres humanos vivimos en:



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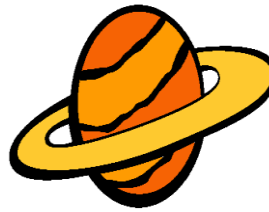
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Sun



Earth



Saturn

9. Selecciona donde van las actividades:



Sleep



Study



Have lunch

Morning	Afternoon	Night
↓	↓	↓

10. Who is faster?



or



PRUEBA DE MATEMÁTICAS Y CIENCIAS NATURALES

PROYECTO CHANGE

GRADO TERCERO

COLEGIO HUGO ÁNGEL JARAMILLO

NOMBRE COMPLETO: _____

FECHA: _____

1. escribe los siguientes números en inglés

a. 14 _____ b. 22 _____ c. 11 _____

- **Marca la letra que contiene la respuesta correcta**

2. Diez niños de un grupo votaron por el color que querían para el uniforme de su equipo de atletismo. El color más votado será el de la **camiseta** y el segundo más votado, el de la **pantalóneta**. Estos fueron los resultados:

Blue, red, black, blue, green, blue, grey, white, white, yellow.

The colors of **the T-shirt and the short** should be:

- a. Blue and white
- b. Blue and red
- c. White and black
- d. Grey and yellow

3. Which of the following numbers is **par**?

- a. 86
- b. 53
- c. 67
- d. 81

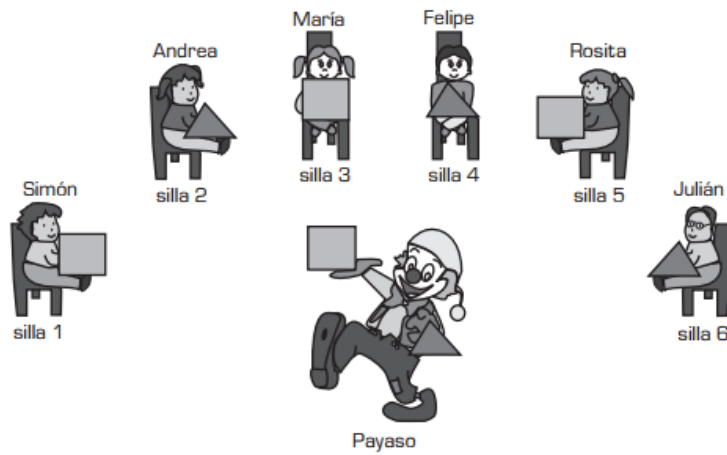
4. En una fiesta, el payaso le entregó una figura a cada invitado para realizar una actividad.



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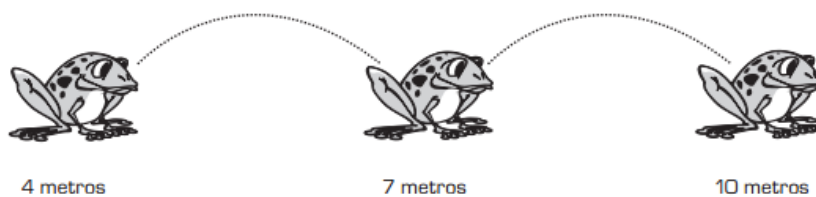


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Who have squares?

- a. Girls
 - b. Boys
 - c. Chairs with **par** numbers
 - d. Chair with **impar** numbers
5. Observa los saltos que da la rana



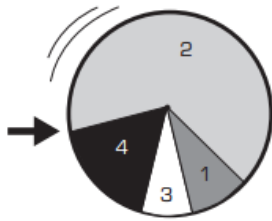
¿Cuántos metros avanza la rana en cada salto?

- a. Three
- b. Four
- c. Ten
- d. Thirteen

6. A la fiesta de Carlos asistieron en principio 15 personas, luego llegaron 4 personas más.
¿Cuántas personas en total asistieron a la fiesta?

- a. Nine
- b. Fifteen
- c. Nineteen
- d. Twenty

7. Eduardo gana un premio si escoge un número de la ruleta y luego de girarla, la flecha señala ese número.



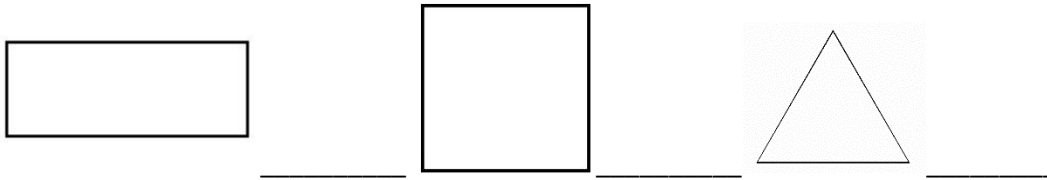
¿Qué número debería escoger Eduardo si quiere ganar más fácil?

- a. One
- b. Two
- c. Three
- d. Four

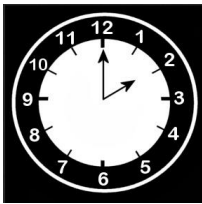
8. ¿Cuál es el polígono con 4 ángulos rectos y 4 lados de la misma longitud?

- a. Triangle
- b. Square
- c. Rectangle

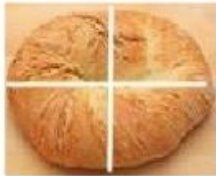
9. Escribe en **Inglés** el nombre de las figuras.



10. Si ahora mismo son las 2 de la tarde, ¿cuál será la hora dentro de 5 horas? _____



9. Into which **fraction** is the bread **divided**?



- a. Half
- b. Fourths
- c. Thirds

10. What fraction of the hexagons **is red**?



- a. $\frac{1}{2}$
- b. $\frac{1}{4}$
- c. $\frac{1}{3}$

13. Escribe en inglés el resultado de las siguientes multiplicaciones.



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a. 1x4 _____ b. 9x2 _____



Resuelve los siguientes problemas y escribe en el espacio la respuesta en inglés

14. Para su fiesta de cumpleaños, Juan ha comprado 10 botellas de jugo de fresa, 11 de vainilla y 9 de chocolate. ¿Cuántas botellas ha comprado en total? _____

15. ¿Cuántos huevos hay en 4 cajas de 6 huevos?

PRUEBA DE CIENCIAS NATURALES

- **Marca la letra que contiene la respuesta correcta**

1. What is a carnivore?

- a. An animal that eats meat
- b. An animal that eats plants
- c. An animal that eats everything

2. An herbivore is animal that does what?

- a. Only eats fruit
- b. Only eats meats
- c. Only eats plants

3. Un oso polar durmiendo todo el invierno en una cueva de nieve es un ejemplo de:

- a. Camouflage
- b. Migration
- c. Hibernation

4. Lo que ayuda a un animal a parecerse como otro animal para protegerse de los depredadores es:

- a. Niche
- b. Migration
- c. Camouflage

5. ¿Cuál es el término que significa viajar de un lugar a otro?

- a. Hibernate
- b. Instinct



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c. Migrate



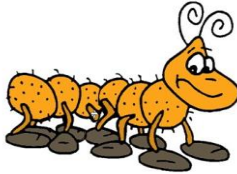
6. Which of these animals is **not invertebrate**?



a.

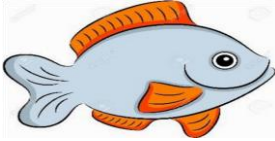


b.



c.

7. Which of these animals is **not vertebrate**?



a.



b.



c.

8. ¿Cuál de los siguientes grupos de invertebrados tiene alas?

- a. Centipede - scorpion
- b. Flea - tick
- c. Butterfly – bee



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9. Escribe el hábitat de los siguientes animales.



Water

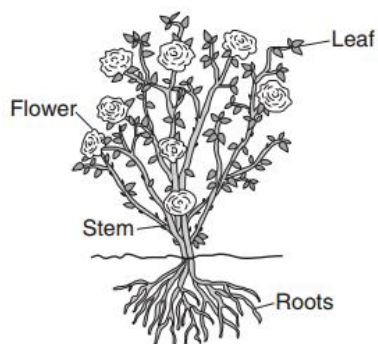
Ejemplo:



10. El cuerpo de la planta se compone de raíces, tallos, hojas, y:

- a. Sepals
- b. Soil
- c. Flowers

11. Cuatro estructuras que ayudan a la planta a sobrevivir, crecer y reproducirse están en la imagen





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Cuál estructura toma agua y nutrientes del suelo? Escribe la respuesta en el espacio _____

12. ¿Cuál de los animales tiene alas?

- a. Bird
- b. Frog
- c. Rabbit

13. El cambio de estado **SÓLIDO** a **LÍQUIDO** se llama:

- a. Evaporation.
- b. Solidification.
- c. Fusion.

14. el cambio de estado **GASEOSO A LIQUIDO** se llama:

- a. Condensation.
- b. Cooling.
- c. Freeze.

15. El cambio de estado **SÓLIDO** a **GASEOSO** se llama:

- a. Warming.
- b. Vaporization.
- c. Sublimation.

PRUEBA DE MATEMATICAS Y CIENCIAS NATURALES

PROYECTO CHANGE

GRADO CUARTO

COLEGIO HUGO ÁNGEL JARAMILLO

NOMBRE COMPLETO: _____

FECHA: _____

1. Escribe en inglés el resultado de las siguientes operaciones:

a. 8×5 _____ b. $(3 \times 2) + 2 + 1$ _____ c. $15 \div 5$ _____

2. Escribe los siguientes números en inglés:

a. 8 _____ b. 14 _____ c. 19 _____

Resuelve los siguientes problemas y escribe la respuesta en inglés

3. Un camión transporta 20 cajas iguales que pesan en total 1.200 kg. ¿Cuánto pesa cada caja?

4. Cristina ha comprado 4 paquetes de dulces y Álvaro 3. Cada paquete tiene 5 dulces. Si ya han enviado por correo 15 dulces, ¿cuántos dulces les quedan por enviar?

5. Escribe en inglés el resultado de la siguiente operación:

a. $(2-1) + 11 =$ _____

- **Marca la letra que crees contiene la respuesta correcta**

6. What are the terms of a **fraction**?

a. Denominador y numerador.

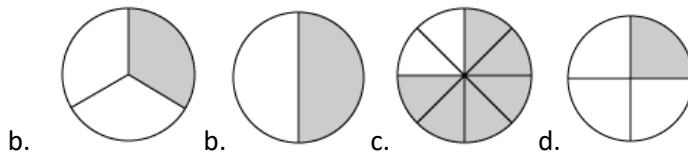
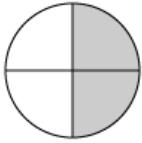
b. Longitud y unidad



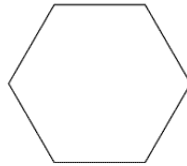
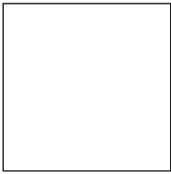
Licenciatura en
Lengua Inglesa
c. Área y perímetro



7. Which of these is an **equivalent fraction** to the image?

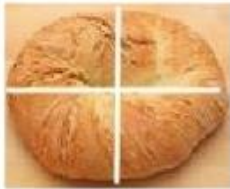


8. Look at the shapes below. ¿Qué fracción de las figuras tienen cuatro lados?



- e. $\frac{1}{3}$
- f. $\frac{2}{3}$
- g. $\frac{2}{6}$
- h. $\frac{4}{5}$

9. Into which fraction is the bread divided?

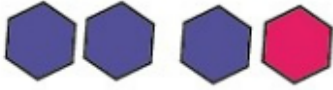


- a. Half
- b. Thirds
- c. Fourths

10. What fraction of the hexagons **is red**?



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- a. $1/2$
- b. $1/4$
- c. $1/3$

11. La medida de la superficie de una figura es:

- a. The perimeter
- b. The area
- c. The fraction

12. Un lado de un cuadrado mide 15 cm. ¿Cuál es su perímetro? Escribe la respuesta en el espacio y en inglés.

13. What is the polygon that has 4 sides?

- a. Quadrilateral
- b. Triangle
- c. Circle

14. ¿Cuál es el polígono con 4 ángulos rectos y 4 lados de la misma longitud?

- a. Triangle
- b. Square
- c. Rectangle

15. Averigua el área de un cuadrado cuyo perímetro mide 29,2 cm.

PRUEBA DE CIENCIAS NATURALES

- **Marca la letra que crees contiene la respuesta correcta**

1. Los seres vivos se clasifican según si tienen huesos o no en:

- a. Carnivores and herbivores



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b. Aquatic and terrestrial

c. Invertebrates and vertebrates



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2. Estos organismos son capaces de producir sus propios alimentos:

a. Aquatic

b. Producers

c. Terrestrial

3. What is the function of the respiratory system?

a. Poder ver los colores

b. Poder llevar oxígeno a nuestro cuerpo

c. Para transportar sangre

4. Tu cuerpo no podría respirar sin este sistema. ¿Cuál es?

a. Respiratory system

b. Perspiration system

c. Photosynthesis

5. La nutrición en los seres vivos se lleva a cabo con la ayuda de los siguientes aparatos:

a. Digestive and respiratory.

b. Circulatory and excretory.

c. All of the above.

6. Un animal que come plantas y animales se llama:

a. Herbivore

b. Carnivore



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c. Omnivore



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7. Los factores bióticos y abióticos de un ambiente interactúan para hacer:

- a. Habitat
- b. Ecosystem
- c. Niche

8. El hogar de un ser vivo se llama:

- a. Trait
- b. Habitat
- c. Soil

9. To which kingdom of nature bacteria belong to?

- a. Mónera y Protistas.
- b. Fungí o Reino de los Hongos.
- c. Vegetal y Animal

10. ¿Cuál de los animales tiene alas?

- a. Bird
- b. Frog
- c. Mouse
- d. Rabbit

11. Las proteínas son alimentos que ayudan a la construcción de los músculos y huesos, Como:

- a. Apple, pear, banana, cherry and lemon.
- b. Meat, beans, lentils, eggs and dairy.
- c. Butter, oils, candies and chocolates.

12. ¿Qué parte de la célula controla todo lo que la célula hace?

- a. Chloroplast
- b. Mitochondria
- c. Nucleus

13. ¿Cuál parte de la célula da energía?

- a. Mitochondria
- b. Chloroplasts

14. _____ controla el flujo de materiales dentro y fuera de una célula:

- a. Cell membrane
- b. Chloroplast
- c. Nucleus

15. ¿Cuántas clases de células hay?

- a. One
- b. Two
- c. Three

PRUEBA DE MATEMATICAS Y CIENCIAS NATURALES

PROYECTO CHANGE

GRADO QUINTO

COLEGIO HUGO ÁNGEL JARAMILLO

NOMBRE COMPLETO: _____

FECHA: _____

1. Escribe en inglés el resultado de las siguientes operaciones:

a. 8×5 _____ b. $(3 \times 2) + 2 + 1$ _____ c. $15 \div 5$ _____

2. Escribe los siguientes números en inglés:

b. 8 _____ b. 14 _____ c. 19 _____

Resuelve los siguientes problemas y escribe la respuesta en inglés

3. Un camión transporta 20 cajas iguales que pesan en total 1.200 kg. ¿Cuánto pesa cada caja?

4. Cristina ha comprado 4 paquetes de dulces y Álvaro 3. Cada paquete tiene 5 dulces. Si ya han enviado por correo 15 dulces, ¿cuántos dulces les quedan por enviar?



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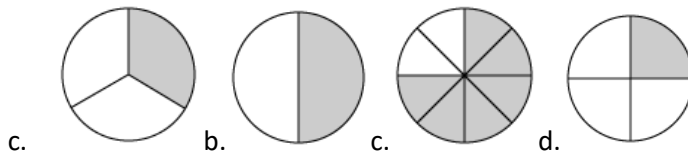
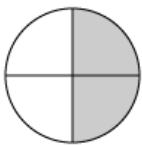
- Marca la letra que crees contiene la respuesta correcta



5. What are the terms of a fraction?

- a. Denominador y numerador.
- b. Longitud y unidad
- c. Área y perímetro

6. Which of these is an equivalent fraction to the image?

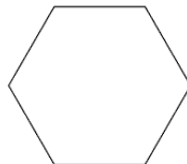
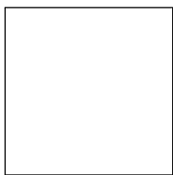


7. What fraction of the hexagons is red?



- a. $1/2$
- b. $1/4$
- c. $1/3$

8. Look at the shapes below. ¿Qué fracción de las figuras tienen cuatro lados?



- i. $1/3$
- j. $2/3$



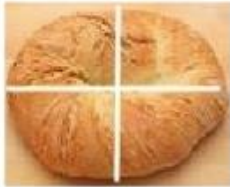
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k. 2/6

l. 4/5



9. Into which fraction is the bread divided?



- a. Halves
- b. Thirds
- c. Fourths

10. What is the polygon that has 4 sides?

- a. Quadrilateral
- b. Triangle
- c. Circle

11. ¿Cuál es el polígono con 4 ángulos rectos y 4 lados de la misma longitud?

- a. Triangle
- b. Square
- c. Rectangle

12. Averigua el área de un cuadrado cuyo perímetro mide 29,2 cm.

13. Cual ecuación utilizarías para resolver este problema?

Juan tuvo una fiesta de cumpleaños. Él tenía 30 dulces para compartir con él y cuatro amigos.
¿Cuántas piezas de dulces tendría cada persona?

- a. Thirty times 6
- b. Thirty plus 4
- c. Thirty divided by 5

14. 3, 20 + 4, 35=

- a. 5, 85
- b. 6, 20



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c. 7, 55



15. Which of the following is **the largest**?

- a. 2.20
- b. 0.022
- c. 2.02
- d. 0.22

PRUEBA DE CIENCIAS NATURALES

- **Marca la letra que contiene la respuesta correcta**

1. Estos organismos son capaces de producir sus propios alimentos:

- a. Aquatic
- b. Producers
- c. Terrestrial

2. The food chain is divided in:

- a. Consumidores terciarios, secundarios, primarios, productores.
- b. Consumidores, productores, descomponedores, herbívoros.
- c. Ninguna de las anteriores.

3. Un ecosistema está compuesto por componentes:

- a. Functions and processes
- b. Individuals and organizations
- c. Biotic and abiotic

4. An organization of living beings is called an:

- a. Ecosystem
- b. Process
- c. Environment



5. Cual tipo de organismo ayuda a devolver los nutrientes de las plantas muertas y de los animales al suelo?

- a. Producer
- b. Prey
- c. Decomposer

6. Los seres vivos se clasifican según si tienen huesos o no en:

- a. Carnivores and herbivores
- b. Aquatic and terrestrial
- c. Invertebrates and vertebrates

8. Cual parte del cerebro es responsable de hacer acciones involuntarias?

- a. Cerebrum
- b. cerebellum
- c. medulla

9. Qué nervios llevan mensajes desde el cerebro al resto del cuerpo?

- a. Motor nerves
- b. Sensory nerves
- c. Nervous nerves

10. También es conocido como cerebro pequeño:

- a. Cerebrum
- b. Cerebellum
- c. Medulla

11. Write the name of the **five senses**. Escribe la respuesta en el espacio



12. Which of the following is a **solid**?

- a. Vapor
- b. Hielo
- c. Agua del mar

13. El estado de la materia que se caracteriza por presentar volumen y forma definida es:

- a. Solid
- b. Liquid
- c. Gas

14. El cambio de estado SÓLIDO a LÍQUIDO se llama:

- a. Evaporation.
- b. solidification.
- c. Fusion.

15. El cambio de estado SÓLIDO a GASEOSO se llama:



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a. Warming.

b. Vaporization.

c. Sublimation



PRUEBA DE MATEMÁTICAS Y CIENCIAS

GRADO SEXTO

PROYECTO CHANGE

COLEGIOHUGO ANGEL JARAMILLO

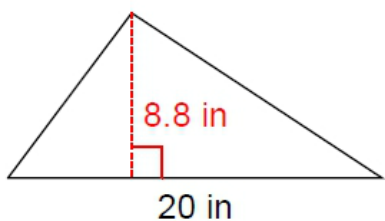
NOMBRE COMPLETO: _____

GRADO: _____

FECHA: _____

1. Write between numbers <(menor) o >(mayor)
 - a. -2 -5
 - b. 0 -3
 - c. -4 2
 - d. 3 -1
2. Find the logarithms and write the result in the front
 - Logaritmo en base 3 de 81
 - Logaritmo en base 2 de 32
3. What is the area of this triangle? *Recuerda que la fórmula para hallar el área es:*

$$A = \text{Base} \times \frac{\text{Altura}}{2}$$






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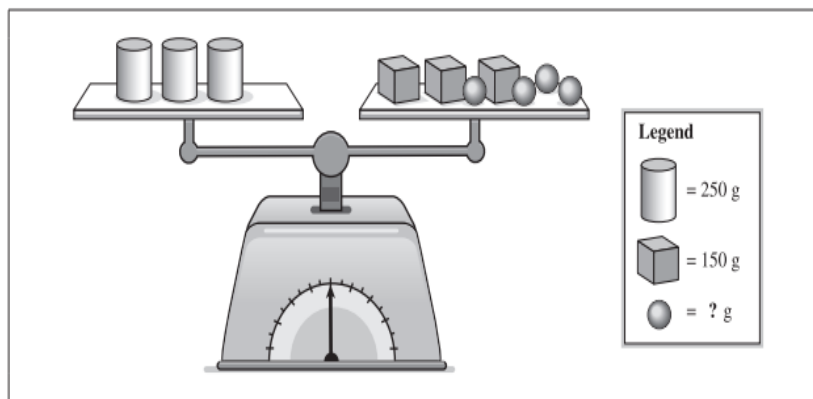


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4. Look at the following numbers and find their multiples.

- 111:
- 125
- 12:
- 15:

5. Which is the mass of one  ?



- a. 50 g
- b. 75g
- c. 150g
- d. 300g

- $7 - 3 \times 2 = \mathbf{W}$
- $3 \times (2 - 1) = \mathbf{X}$
- $12 \div (3 \times 2) = \mathbf{Y}$
- $6 + 2 \div 2 = \mathbf{Z}$

6. What is the sum of the values of **W**, **X**, **Y**, and **Z**?

- a.13
- b.17
- c.21
- d.25

7. Look at the shapes below. Write the correct names from the list of words.

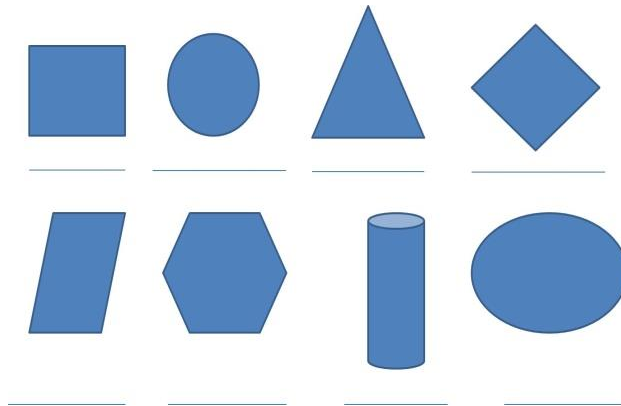


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Ellipse- parallelogram- hexagon- rhombus- circle- cylinder- square- triangle



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8. Juan tenía \$ 8.500 pesos. Gastó \$ 1.250 en los dulces y dio a sus dos amigos \$ 1.200 a cada uno. ¿Cuánto dinero le queda?
9. A machine fills 150 bottles of water every 8 minutes. How many minutes it takes this machine to fill 675 bottles?
- a. 25
 - b. 36
 - c. 40
 - d. 32
10. Los uniformes para que los jugadores de fútbol que representan al colegio en los inter colegiados costaron \$253 000. El colegio aportó \$121 000. Siendo 11 jugadores, ¿Cuánto debe aportar cada jugador?
11. A builder builds $6\frac{1}{2}$ meter wall per day. How many meters built in $3\frac{1}{2}$ days?
- a. $20\frac{3}{5}$
 - b. $22\frac{3}{4}$
 - c. $9\frac{1}{2}$
 - d. 18

12. Solve the following fractions

- $\frac{7}{42} + \frac{14}{42}$

- $\frac{4}{9} - \frac{2}{6}$

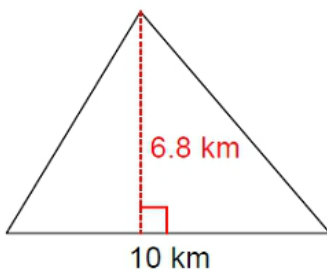
- $\frac{2}{7} \times \frac{1}{14}$

- $\frac{9}{15} + \frac{5}{20}$

13. Julieta tenía que recorrer 60 kilómetros para llegar a su destino. Por la mañana recorrió $\frac{2}{6}$ del trayecto. Al mediodía recorrió $\frac{1}{5}$ y por la tarde lo que le faltaba. ¿Cuántos kilómetros recorrió por la tarde?

14. Pablo sells 32 boxes of milk, in every box there are 24 bottles of milk. If every bottle was sold for \$2.500. How much money earn Pablo?

15. Find the area of the following triangle



PRUEBA DE CIENCIAS

1. Read the following text and answer questions from A to E.

THE WATER CYCLE

Water covers most of our planet. It can be found in oceans, lakes, and ponds, and in the ground itself. The cycle of water from **liquid** to **vapor** to **solid** is called **the water cycle**. The water cycle is an exciting and continuous process, with no beginning or end. The water cycle is the movement of water in the environment by **evaporation**, **condensation**, and **precipitation**.

The warm sun causes liquid water to *evaporate* (to change from a liquid into a gas or vapor) and rise up into the sky. The water vapors that are formed cool during evaporation. These cooled water vapors form clouds in the sky. The transformation of the vapor into clouds (that is, from a gas into a liquid) is *condensation*. Clouds can be a mass of water droplets and/or ice particles. When the clouds get heavy enough, the water falls back to the ground in the form of rain, snow, or hail. This is *precipitation*.

*Plants in our environment contain water in a liquid form. They release water vapor into the atmosphere. When plants do this it is called transpiration. **Transpiration** is a kind of evaporation*



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The Water Cycle



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Taken from: abcteach.com

- A. ¿Cuáles son los tres estados del agua mencionados en el texto?
- Líquido, vapor, sólido
 - Congelado, vapor, sólido
 - Líquido, gas, granizo
 - Agua, gas, sólido
- B. ¿Cuál de las siguientes definiciones, es la mejor para evaporación?
- Es el proceso de desaparición.
 - Es el proceso mágico de convertir el agua en vapor.
 - Es el proceso de cambio de líquido a vapor.
 - Es el proceso de pasar de un lugar a otro.
- C. ¿Cuál de las siguientes es la mejor definición para condensación?
- Es el proceso de mover las cosas muy cerca una de otra.
 - Es el proceso de cambio de vapor a líquido.
 - Es el proceso de cambio de líquido a vapor.
 - Es el proceso de cambio de vapor a sólido.

- D. ¿Cuál de los siguientes es el mejor ejemplo de precipitación?
- Lluvia
 - Nubes
 - Evaporación
 - Hielo
- E. ¿Qué causa la evaporación?
- El calor del sol y la fotosíntesis
 - La transpiración y la precipitación.
 - La lluvia y la nieve.
 - El sol y la transpiración.
1. How is called the basic unit of all living things?
2. What is an ecosystem?
3. What are the kingdoms of nature?
- Protist, Fungi, Plants, Monerans, Animals
 - Protist, Vegetables, Algaes, Animals.
 - Animals, Plants, Protist.
 - Monerans, Protist, Bacterias.
4. En cuál de los reinos de la naturaleza se encuentran los invertebrados y vertebrados?
5. What is nutrition?



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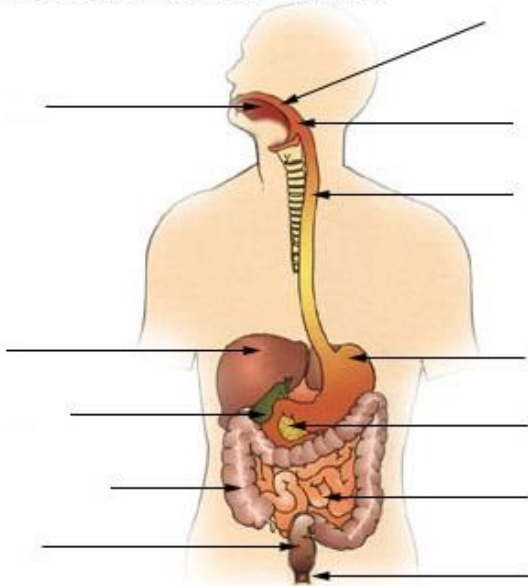
- a. An organism capable of synthesizing its own food from inorganic substances, using light or chemical energy.
- b. It is the way living things obtain and use food
- c. It is the set of life-sustaining chemical transformations within the cells of living organisms.
- d. It is a metabolic process common to all living things.

6. Según la forma de obtener los alimentos, los organismos pueden ser:

7. Ubique lo nombre correspondientes en la siguiente imagen que representa el sistema digestivo.

Stomach- Liver- Anus- Pharynx- Mouth- Large intestine- Rectum- Small intestine- Gallbladder-Tongue-Pancreas- Esophagus

Organs of the Digestive System



8. El estudio del sistema solar es llamado:
- a. Ecology



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- b. Astronomy
- c. Planetology
- d. Astrology



9. Mention the 9 planets in its correct order.
10. The process through plants get their food is known as:
- a. Evaporation
 - b. Condensation
 - c. Photosynthesis
 - d. None of the above
11. Name the smallest unit of an element
12. Cuáles son los principales procesos de división celular?
- a. Mitosis and Interphase
 - b. Telophase and Mitosis
 - c. Mitosis and Meiosis
 - d. Interphase and Prophase
13. Nombre la materia gelatinosa que se encuentra fuera del núcleo de una célula.
14. Look at the following image; write in each of the listed space the corresponding name.



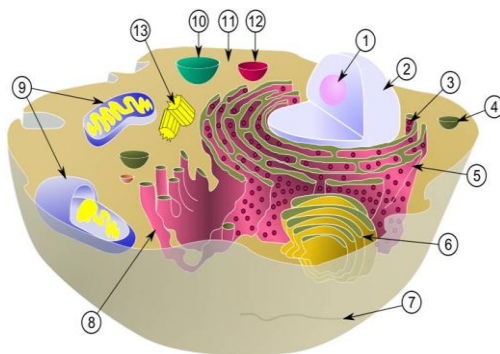
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Citoplasma - Protoplasma - Retículo endoplásmico - Mitocondrias - Ribosomas -

Lisosomas - Aparato de golgi - Centriolos - Plastos - Cloroplastos - Vacuolas - Núcleo -
Nucleolos



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PRUEBA DE MATEMÁTICAS Y CIENCIAS

GRADO SÉPTIMO

PROYECTO CHANGE

COLEGIO HUGO ANGEL JARAMILLO

NOMBRE COMPLETO: _____

GRADO: _____

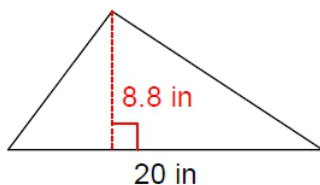
FECHA: _____

16. Find the logarithms and write the result in the front

- Logaritmo en base 3 de 81
- Logaritmo en base 4 de 256
- Logaritmo en base 2 de 32
- Logaritmo en base 5 de 625

17. What is the area of this triangle? *Recuerda que la fórmula para hallar el área es:*

$$A = \frac{\text{Base} \times \text{Altura}}{2}$$



18. Como se clasifican los poliedros?


- a. Convex, concave, rectangle, square

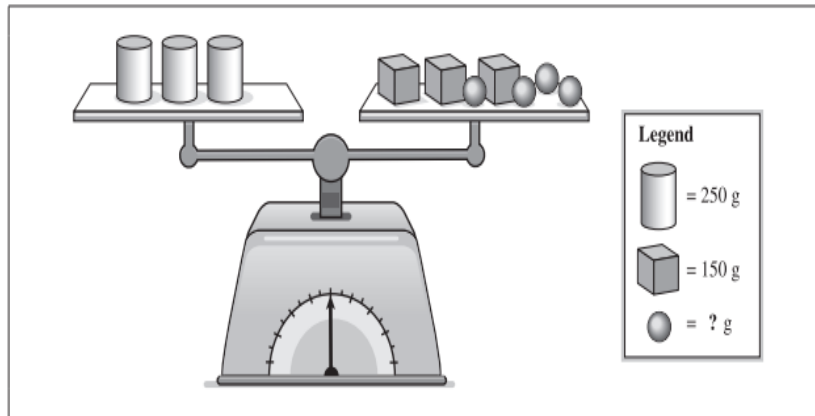


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- b. Concave and convex
- c. Concave, convex, regular, irregular
- d. None of the above

19. Which is the mass of one  ?



- e. 50 g
- f. 75g
- g. 150g
- h. 300

- $7 - 3 \times 2 = \mathbf{W}$
- $3 \times (2 - 1) = \mathbf{X}$
- $12 \div (3 \times 2) = \mathbf{Y}$
- $6 + 2 \div 2 = \mathbf{Z}$

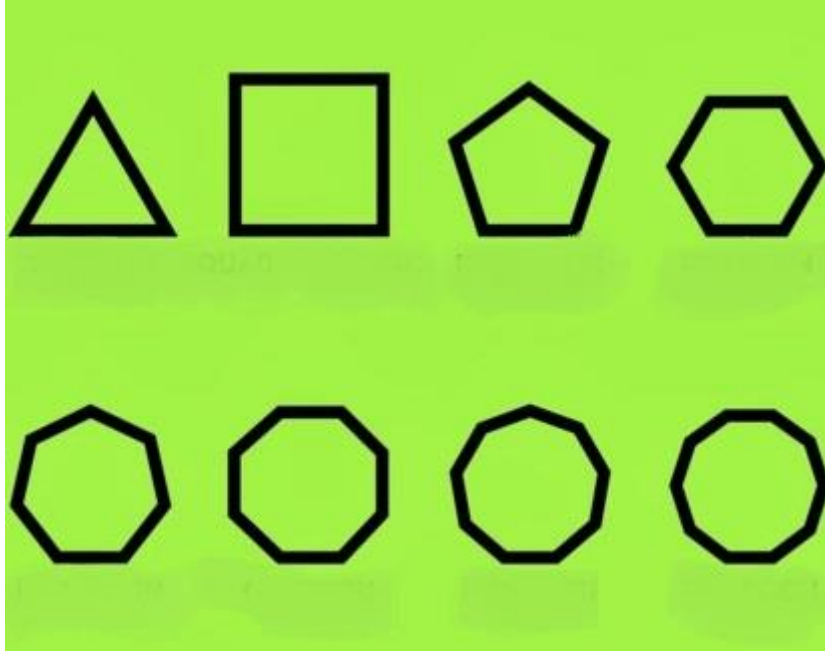
20. What is the sum of the values of **W**, **X**, **Y**, and **Z**?

- a.13
- b.17
- c.21
- d.25

21. Observe los siguientes polígonos y escriba su nombre de acuerdo a la cantidad de lados.



Heptagon- quadrilateral- decagon-hexagon-nonagon-pentagon-octagon-triangle



22. Solve the following equations

- $2x=6$
- $2(2x-3)=6+x$
- $4(x-10)= -6(2-x) -6x$
- $2(x+1)-3(x-2)=x+6$

23. A machine fills 150 bottles of water every 8 minutes. How many minutes it takes this machine to fill 675 bottles?

- e. 25
- f. 36
- g. 40



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h. 32



24. Juan tenía \$ 8.500 pesos. Gastó \$ 1.250 en los dulces y dio a sus dos amigos \$ 1.200 a cada uno. ¿Cuánto dinero le queda?
25. Una partícula con velocidad constante recorre 1200 mts en 80 segundos.
Determinar
- Qué distancia recorrerá en media hora.
 - Qué tiempo tardará en recorrer 1500 mts.
26. Identify the proportional magnitudes. Write **Yes** or **No** in front of them.
- Número de comensales y comida que debe haber en la mesa.
 - Distancia y combustible empleado.
 - El amor que se siente y la belleza de la persona amada.
 - Velocidad y tiempo empleado en recorrer una distancia
27. Calcule las siguientes proporciones:
- $\frac{4}{10} = \frac{x}{60}$
 - $\frac{9}{12} = \frac{12}{x}$
 - $\frac{8}{32} = \frac{2}{x}$
28. 3 workers built a wall in 12 hours. How long will it take to be built if there are 6 workers?

29. La ecuación lineal $\frac{2}{3} - \frac{5x}{4} = 2x - 7$ es una ecuación:

- a. Whole Polynomial
- b. Rational Polynomial
- c. Irrational Polynomial
- d. All of the above

30. La ecuación $15x^3 - 50x = 25$ es equivalente a...

- a. $3x^3 - 10x = 5$
- b. $5x^3 - 10x = 5$
- c. $3x^3 - 10x = 25$
- d. $2x^7 - 5 = 2 \cdot 6$

PRUEBA DE CIENCIAS

1. Read the following statements and put a T if you consider they are TRUE and an F if you consider they are FALSE.

- A group of similar cells that work together to perform a specific function is called organ
- Animals that eat other animals are called herbivores
- Scavengers are animals that eat both plants and other animals.
- Organisms that get energy by breaking down the remains of dead organisms are called decomposers.
- The closest object to Earth is the Sun.



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- An ecosystem is a community of living organisms and their physical environment.
 - Biosphere is the study of the relationship of plants and animals with their physical environment.
2. In your own words, define **Ecology**:
3. How many pairs of chromosomes have human body cells?
- a. 23
 - b. 56
 - c. 46
 - d. 18
4. Los niveles de organización de la materia se pueden agrupar en:
5. The biological levels of organization of living things arranged from the simplest to most complex are:
- a. Organelle, cells, tissues, organs, organ systems, organisms, populations, communities, ecosystem, and biosphere.
 - b. Tissues, cells, biosphere, organism, populations, ecosystem, organelle, organs, organ systems.
 - c. Organs, systems, populations, ecosystem, communities, biosphere, tissues, organelle.
 - d. None of the above
- 6.Cuál es el sistema que se encarga de permitirnos el movimiento?

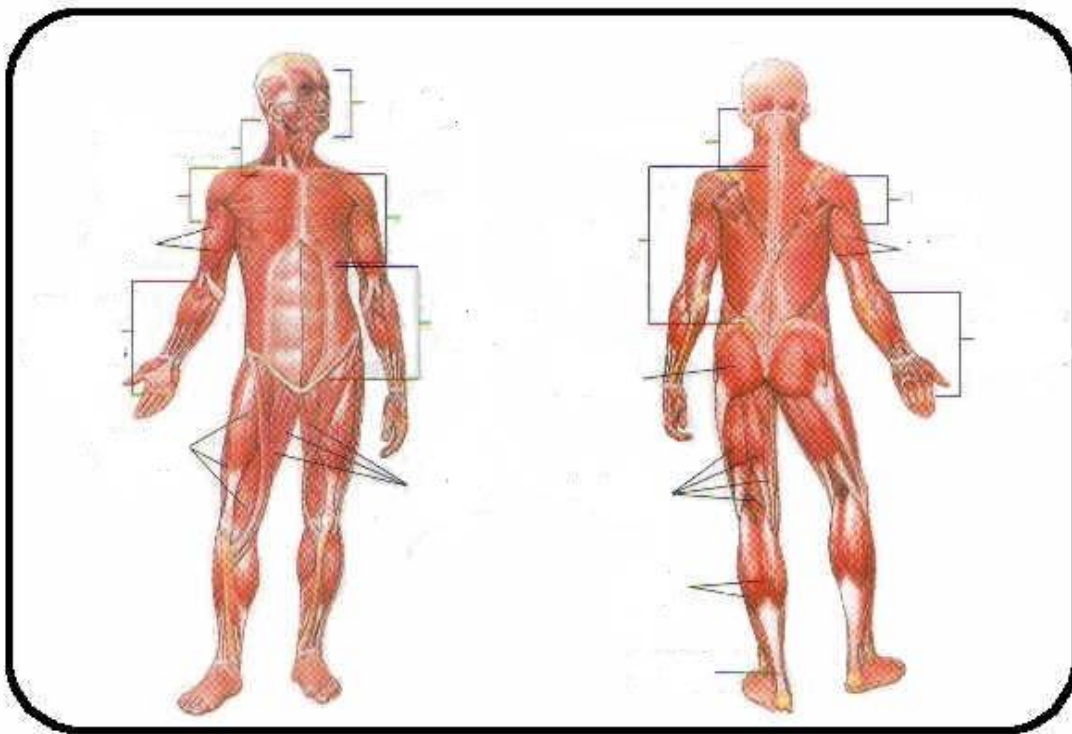
7. The Skeletal, Muscular, and Nervous Systems are part of the system:
 - a. Respiratory
 - b. Musculoskeletal
 - c. Excretory
 - d. Digestive
8. El sistema circulatorio también es conocido como:
 - a. Nervous System
 - b. Blood Vessels
 - c. Cardiovascular System
 - d. Vena Carve
9. Which of the following is NOT part of the Circulatory System?
 - a. Lungs
 - b. Arteries
 - c. Veins
 - d. Heart
10. Son las encargadas de llevar la sangre hacia el corazón y luego bombearla fuera de él.
11. How many bones have a human being?
12. This bone connects the base of the spine with legs
 - a. Sacrum
 - b. Tarsal
 - c. Pelvis
 - d. Sternum
13. What is the longest bone in the human body?

14. Otro nombre para la columna vertebral es:

- a. Fibula
- b. Metacarpal
- c. Ulna
- d. Vertebra

15. Look the following picture which illustrates the muscular system. Write the correct name in each of the parts. **Note:** *Tres de las partes se repiten*

Face muscles- deltoid- hamstring muscles- abdominal muscles- groin muscles- biceps- triceps- back muscles- chest muscles- neck muscles- quadriceps muscles- gluteus maximums- calf muscles- extensors of wrist and fingers- Achilles tendon



PRUEBA DE MATEMÁTICAS Y CIENCIAS

GRADO OCTAVO

PROYECTO CHANGE

COLEGIO HUGO ANGEL JARAMILLO

NOMBRE COMPLETO _____

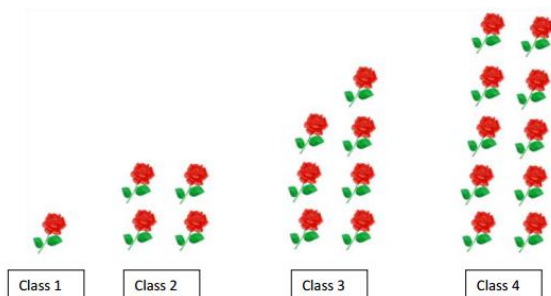
GRADO: _____

FECHA: _____

1. Evaluate the following expressions involving mixed numbers.

- $3 \frac{3}{4} + 6 \frac{1}{7}$
- $(1 \frac{3}{5}) * (3 \frac{1}{3}) - 2 \frac{1}{2}$
- $(5 \frac{2}{3}) / (4 \frac{1}{5})$

2. Look at the pattern below and fill in the missing boxes of the table. Cuantas rosas habrán en la clase 10?





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3. [The wavelength of light is 0.000065 meters. What is this value in scientific notation?](#)

- a. 6.5×10^{-4}
- b. 0.65×10^{-6}
- c. 6.5×10^{-3}
- d. 6.5×10^{-5}

4. Solve the following inequalities.

- $x + 6 < 0$
- $x + 1 > 5$
- $2(x - 2) < 12$

5. Solve for x the following equations.

- a. $-x = 6$
- b. $2x - 8 = -x + 4$
- c. $2x + 1/2 = 2/3$
- d. $x/3 + 2 = 5$

6. Evaluate for the given values of x and y .

- $x^2 - y^2$, for $x = 4$ and $y = 5$
- $|4x - 2y|$, for $x = -2$ and $y = 3$
- $3x^3 - 4y^4$, for $x = -1$ and $y = -2$

7. Realice los siguientes ejercicios y resuelva con la formula correcta.

a. $x^3y^6 - 64$

b. $x^3 - 8$

8. Factorice los polinomios en los que se puede identificar con el desarrollo del producto

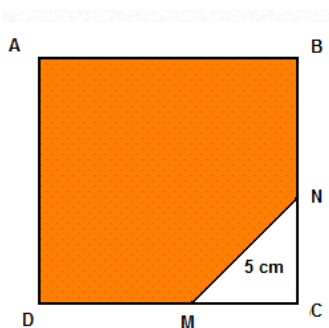
a. $x^2 + 2x - 15$

b. $y^2 - 2y - 15$

c. $x^2 - 4x + 3$

9. Pablo is taller than Sara but shorter than both Lina and Tania. Lina is shorter than Tania. Natalia is shorter than Sara. Who is the shortest?

10. El tamaño del perímetro del cuadrado ABCD es igual a 100 cm. La longitud del segmento MN es igual a 5 cm y el triángulo MNC es isósceles. Cuál es el área del pentágono ABNMD?



a. 480 cm

b. 618.75 cm

c. 205.75 cm

d. 500 cm



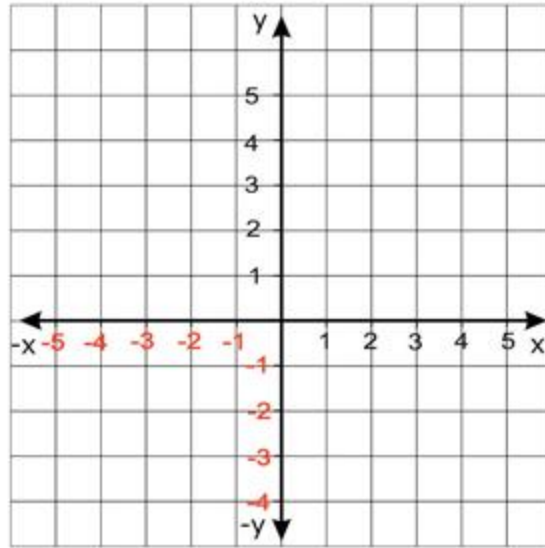
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11. Representa la función lineal con los datos dados.

- Tiene pendiente -3 y ordenada en el origen -1.



12. The expression $2 \leq x$ refers to:

- Cualquier número mayor que dos incluidos estes.
- Cualquier número mayor que dos.
- Cualquier número menor que dos incluidos estes.
- Cualquier número menor que dos.

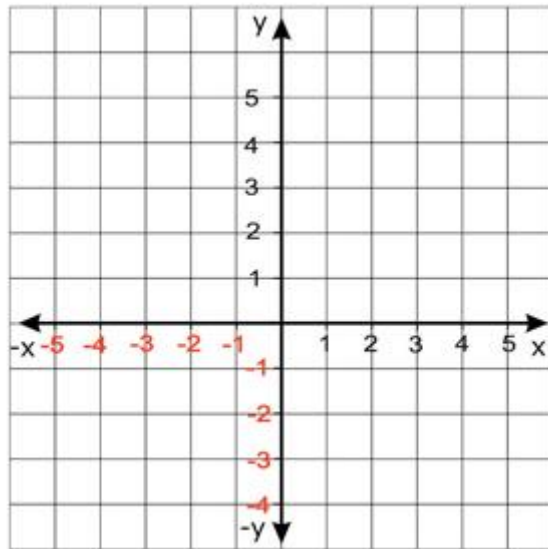
13. Representa la función afín: $y = -2x - 1$



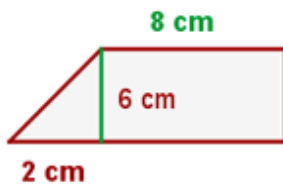
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14. Find the perimeter and area of the trapezoid triangle

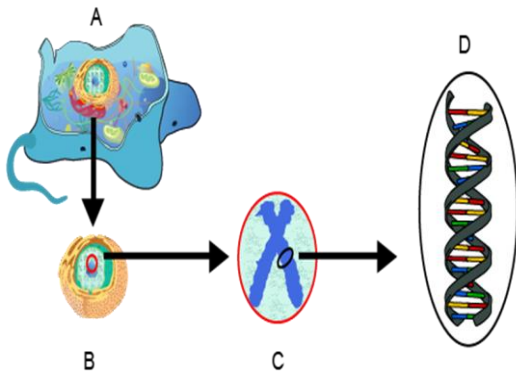


15. Solve the inequalities

- $7x^2 + 21x - 28 < 0$
- $-x^2 + 4x - 7 < 0$
- $4x^2 - 16 \geq 0$

PRUEBA DE CIENCIAS

1. Identifique y nombre cada uno de los siguientes elementos.



2. What is the process by which cells obtain energy from food?
3. Which one of the element is NOT used in either cellular respiration or photosynthesis?
- Carbon
 - Oxygen
 - Nitrogen
 - Hydrogen
4. Which of the following is the appropriate formula for the photosynthesis process?
- $\text{CO}_2 + \text{H}_2\text{O} + \text{O}_2 \rightarrow \text{CH} + \text{O}_2$
 - $6\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2$
 - $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
 - $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{O}_2$
5. Read the following statements and determine if they are true (T) or false (F). **Note:** If the statement is false, change it to become true.
- The study of heredity is called biology.



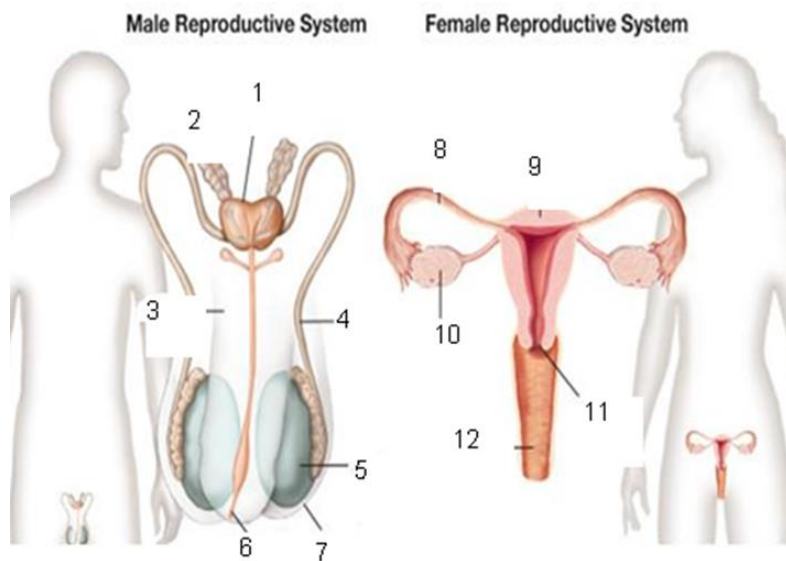
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- Mars is the second planet away from the sun.
- The heart contracts on its own about 200.000 time a day.
- A gene or trait that will always show itself is recessive.
- Screw is a machine used to hold two objects together.
- The tendency of an object to resist change in motion is called gravity.
- A gene or trait that will be hidden when that dominate trait is present is dominant.

6. Look at the picture of the Reproductive System and put it parts in the correct place.

Seminal vesicle- Urethra –Cervix- Ovary- Vas derens- Uterus- Prostate gland-
Vagina- Testis- Scrotum- Fallopian tube- Penis



7. The male and female sex cells are known as:

- Zygote and Sperm
- Ovary and Uterus
- Sperm and Ovum
- Scrotum and Ovary

8. Cuáles son las hormonas femeninas y masculinas?

9. Which one of the following statements about cellular respiration is TRUE?



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- a. Cellular respiration converts energy directly from the sun into energy stored in chemical bonds
- b. Cellular respiration cannot occur without sunlight
- c. Cellular respiration occurs in plants and animal cells

10. En sus propias palabras defina los siguientes términos.

- Mutualism:
- Commensalism:
- Symbiosis:
- Parasitism:

11. Which are the biogeochemical cycles?

- a. The hydrologic cycle, the nitrogen cycle, the phosphorus cycle and the carbon cycle
- b. The phosphorus and the carbon cycles
- c. The hydrological and the nitrogen cycles.
- d. None of the above

12. What is ecology?

13. El sistema nervioso se divide en dos sistemas, cuáles son?

14. The brain has three main parts which are:

- a. Cerebellum, spinal cords, nerves
- b. Brain, cerebellum and veins
- c. Cerebellum, medulla, brain



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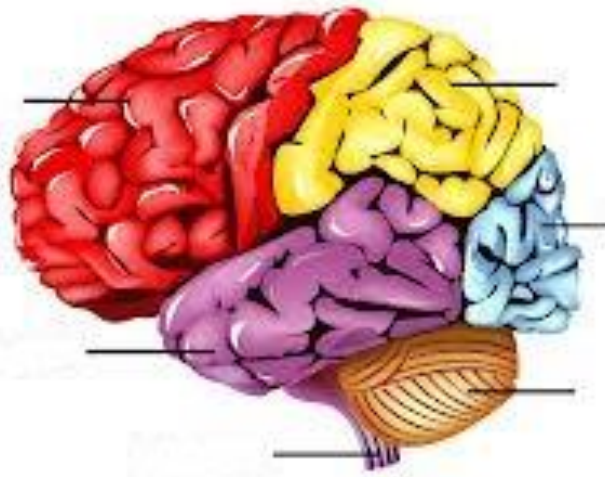
d. Heart, brain, nerves



15. Look at the following picture of human brain and identify each of its parts.

Occipital lobe- spinal cord- frontal lobe- cerebellum- parietal lobe- central lobe

Parts of the Human Brain





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APPENDIX 3: GRADING CRITERIA



GRADING CRITERIA

Respuesta correcta	El estudiante demuestra total comprensión de la pregunta y logra satisfactoriamente una conexión entre contenido y lenguaje.
Respuesta correcta en español.	El estudiante demuestra comprensión de la pregunta y logra de manera parcial la conexión entre lenguaje y contenido.
Respuesta en inglés mal escrita.	El estudiante demuestra comprensión de la pregunta, pero no logra responder de manera adecuada en la segunda lengua.



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APPENDIX 4: INTERVIEWS CONSENT FORM



Pereira, _____ de Junio del 2016.

ACTA DE CONSENTIMIENTO

Yo, _____ portador de la cédula _____ de _____, hago constar por medio de la presente acta, que aceptó la aplicación de la entrevista y mi participación activa como objeto de estudio de evaluación correspondiente a la fase tres del proyecto “CHANGE” que se realizará en la institución educativa Hugo Ángel Jaramillo en la localidad de Malaga de la ciudad de Pereira. Se me ha explicado los objetivos y procedimientos del estudio y mi incorporación será voluntaria y citada de forma anónima. Por tanto al firmar este documento autorizo me incluyan en esta investigación.

El proyecto “CHANGE” (cambio) es el modelo de educación bilingüe que se ha venido implementando en la Institución Hugo Ángel Jaramillo. Dicho modelo representa la enseñanza en inglés de materias como ciencias naturales, matemáticas y ciencias sociales a través del idioma Inglés.

En su primera fase se realizó un programa de capacitación a los docentes en este modelo y en inglés, en su segunda fase se realizó la implementación de éste. Ahora, el proyecto está en la fase de evaluación la cual es sobre el impacto en el proceso de aprendizaje de los estudiantes.

Firma:



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APPENDIX 5: INTERVIEWS QUESTIONS



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de Pereira

Preguntas para entrevistar profesores de contenido y de inglés colegio Hugo Ángel Jaramillo.

Buenos días profesor/ profesora.

Agradecemos que haya aceptado ser parte de esta entrevista, la cual se incluirá en nuestro trabajo de tesis que evalúa el proceso de AICLE en colegios públicos. El objetivo de la entrevista es analizar sus percepciones en cuanto al proyecto, en cuanto a los resultados de las pruebas y las implicaciones del mismo. La entrevista se desarrollará a través de preguntas y todo esto será debidamente grabado, así mismo el contenido de esta entrevista no tendrá implicaciones en su trabajo y será citado anónimamente en nuestro trabajo de tesis.

Procedamos:

1. Percepciones generales del proyecto	2. Resultados	3. Implicaciones
<ul style="list-style-type: none">• ¿Cuál fue su percepción al inicio del proceso, durante su desarrollo y al final de este?• ¿Cómo ve el uso de los dos idiomas (español e inglés) en las implementaciones?• ¿Considera que vale la pena enseñar otras materias a través del inglés? ¿Si no? ¿Por qué?• ¿Cuál es la percepción de sus estudiantes ante	<ul style="list-style-type: none">• ¿En qué manera evidencia el avance de los estudiantes en el proyecto AICLE?• ¿Qué debería mejorarse con el fin de tener un mejor impacto en las implementaciones de AICLE?• Considera que usted y sus estudiantes mejoraron el desarrollo lingüístico durante este proceso? ¿Qué aspectos específicos considera que	<ul style="list-style-type: none">• ¿Cuáles son los desafíos en el proceso de CLIL en las instituciones?• ¿Qué opina sobre el bilingüismo y la importancia del dominio del inglés en Colombia, específicamente en los colegios públicos?• ¿Cuál considera que son los retos que el proyecto tiene que superar? ¿Podrían



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<p>la integración de las asignaturas de contenido (ciencias y matemáticas) con inglés?</p> <ul style="list-style-type: none">• ¿Qué estrategias y metodología tuvo en cuenta para planear las clases?	<p>mejoraron?</p> <ul style="list-style-type: none">• ¿Evidencia algún progreso en el rendimiento de los estudiantes en cuanto a las distintas temáticas vistas en su asignatura e inglés?	<p>detener el proceso o se pueden superar con facilidad?</p>
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